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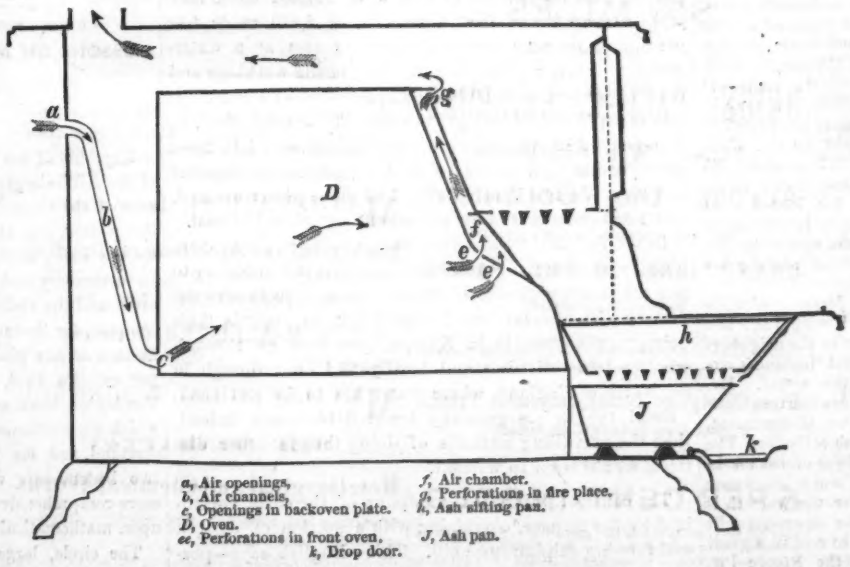
PICKERING'S IMPROVED VELOCIPEDE.

The manufacture of velocipedes has now commenced in this country, and we expect soon to find "velocipeding"—if we may be allowed to use the word—as much the rage in our cities as it has been in Paris. At first sight it seems a very difficult process for a rider to balance himself on two narrow wheels, placed one before the other, but, as in skating, a few hours' practice enables a person to keep upright, and when this point has been reached, he makes rapid progress. As might be supposed they would, American manufacturers have from the start begun to improve upon the French velocipedes, of which some were imported as models. These are not only expensive, owing to the peculiar shape and construction of the iron frame and consequent difficulty of forging it, but are heavy, owing to all the parts being solid; and no effective provision has been made for the repair or renewal of any parts that may be broken or worn out. In the one represented in the accompanying engraving, which was designed by Mr. THOMAS R. PICKERING, of New York, the patentee of the engine governor bearing his name, and which is manufactured by Messrs. PICKERING & DAVIS, of 144 Greene Street, in this city, the above objections are all overcome. The reach or frame of this velocipede is tubular, and thereby great strength and lightness are secured. The bearings are all of composition or gun-metal, and so attached that when too much worn they may be replaced by others, which are interchangeable, like the parts of sewing-machines and firearms. The hub of the hinder wheel is bushed with composition or gun-metal; and the axle is of peculiar construction, constituting in itself an oil-box, by being made tubular and closed at either end by a screw, on the removal of which it may be filled with lard-oil. This oil finds its way out to the bearing as fast as required, through two or three fine holes made for the purpose in the axle. One important feature is the arrangement of the tiller or steering-handle, which is brought well back and sufficiently high to require the rider to maintain an erect position, with his arms well back and hands well separated, thus keeping the chest expanded and allowing free play of the lungs. As considerable exertion is required by the arms to counteract the effect of the alternate pressure of the feet upon either crank of the driving-wheel, the exercise is extremely developing to the arms, and, with a proper arrangement of the handle, to the chest also. The stirrups require notice, as they differ essentially from those of other velocipedes, which permit only the shank of the boot to set on them and have their single flat side kept in position by a weight cast on the bottom. The stirrups of this velocipede have their exteriors three-sided, with circular flanges at each end, and as they are fitted to turn on the crank-pins, the pressure of the foot will always bring one of the three flat sides into proper position. These flat sides are roughened, to prevent the foot from slipping, and are so shaped as to permit the use of the forepart of the foot, and bring the ankle joint into play, and thereby relieve the knee considerably, making the propulsion much easier than when the shank of the foot is used exclusively. The cranks are made adjustable, to suit different persons and different kinds of roads and inclines. The saddle is supported on a spring, giving an elastic seat. The brake is exceeding simple and effective, being composed of a block of hard wood attached to the under side of the back part of the saddle, which is shaped to form a good brace or rest for the lower part of the back of the rider. The spring of the saddle being adjusted to suit the rider, the break-block clears the face of the hind wheel until it is required to be used, and then a pressure forward against the tiller with the hands and backward against the after part of the saddle with the back, instantly compresses the saddle spring and brings the brake into action on the wheel.

PICKERING'S IMPROVED VELOCIPEDE.



a, Air openings,
b, Air channels,
c, Openings in backoven plate.
D, Oven.
ee, Perforations in front oven.
k, Drop door.
f, Air chamber.
g, Perforations in fire place.
h, Ash sifting pan.
J, Ash pan.

Fig. 1.

COOKING STOVES.

The first-class Cooking Stoves of the present day are so far in advance of those in use twenty, or even five years ago, that many have come to think further improvement impossible; but that this was not so is shown by an examination of the Mutual Friend Stove, introduced in 1866, which combines all that is desirable in others, with some valuable improvements, which have been secured for this stove by letters patent, and cannot be found in any other. An examination will disclose the following advantages: The design is attractive (as shown in Fig. 2), yet plain; the surface free from crevices, preventing lodgment of grease or dirt. The surface of the stove, inside and outside, also all the heat of the fire, is made available. The heat of the front of the stove, which is generally not available, is in this stove applied to four valuable purposes, viz: 1st.—The air, which supplies the draft to the fire, is admitted through the front doors, where, by contact with the hot fire-plate, it becomes highly heated before entering the fire, ensuring better combustion and economy of fuel. 2d.—Sad Irons can be heated there by an arrangement especially provided, thus saving the top of the stove for other purposes. 3d.—Broiling can be done perfectly at the front, on a gridiron made for the purpose, which is furnished with the stove; the fumes are drawn into the fire, thus saving the house from the disagreeable odor usually accompanying broiling. 4th.—Roasting can also be done at the same place with like success and the same freedom from smell. The oven is large and high, will bake evenly, the heat being equalized by an entirely new mode of ventilation. The ventilation is carried on by a continual current of air passing into the openings represented in Fig. 1 by *a*, thence down the tube, *b*, entering the oven at *c*, highly heated (by the fire passing over and around the tube *b*), thence through the oven out at the perforations, *e e*, into the air chamber, *f*, thereby keeping the oven constantly supplied with fresh air, carrying off all vapors arising from baking, rendering baked meats equal to roasted; also, pies and bread the same as if from a brick oven. The Gas Burner, *g*, is supplied by this hot air from the oven, thereby burning the gases of the coal completely, producing great economy in fuel. The Ash-Sifter, *h*, with the Ash-Pan, *J*, form a combination for sifting the ashes, which is perfect, producing no dust, and saving a great deal of labor. The ash-pan is removed through the drop-door, *k*. Two valuable attachments, or either of them, may be added at any time by using a plate which is made to fit these stoves; these are: The Reservoir Boiler, through which the smoke and fire passes, by means of a flue formed in the boiler, thus affording a constant supply of hot water; and, the Tin Hot Closet, by which dishes can be kept warm without scorching or excessive drying. Besides the above qualifications, the joints are air-tight; oven doors are lined with tin; and have white porcelain knobs, put on with substantial wrought iron bolts. The castings are selected, and every stove is carefully inspected before leaving the works. Its arrangement for wood is admirable, and fully as good as if expressly made for that purpose. As a coal stove it stands unrivalled. The extended top is portable, and can

be attached to the plain top, avoiding the necessity of having two setts of stoves of the same kind. The reservoir boiler and hot closet can be attached to any of the Mutual Friend Cooking Stoves with less expense than to any other stove in the market.

These stoves are manufactured at the NATIONAL STOVE WORKS, Nos. 239 and 241 Water Street, New York City.

Subterranean Temperature.

The President of the Geological Society of London, Mr. WARINGTON W. SMYTH, M.A., F.R.S., in an address delivered some time ago, referred at considerable length to the question of subterranean temperature, which from time to time has attracted the attention of the learned. He remarks that in connection with the change of rock masses by metamorphic action, and with the phenomena of volcanic forces, we are constantly reminded of the internal temperature of the globe, and find it difficult to establish any clear view of the causation of either one or the other without being first satisfied of the reality and amount of this internal heat. Confessedly there are many difficulties in the way of a sufficient knowledge of the character of the interior of the earth, even to a moderate depth; but surely among the main facts upon which we may depend is that of an increase of temperature with increasing depth. Such is, however, the desire on the part of certain writers to launch their own novelties, and to upset the old landmarks, that one has seen this position of late altogether questioned, or an explanation of the increased heat proposed in the compression of the air, the friction caused by the working of mines, and in the warmth of men, the burning of candles, gunpowder, &c. All these are, doubtless, efficient causes, and in inquiries pretending to accuracy must be either avoided or eliminated; but they have long since been shown to be inadequate to produce the results obtained. Although all actual observers are agreed upon the main point at issue, it is very true that a great uncertainty prevails as to the rate of elevation of temperature met with in descending, whether it be according to a regular scale of progression, increasing directly with the depth, or be intermittent, as maintained long ago by Mr. R. W. Fox — whether it increases below a certain horizon in a less rapid ratio, and after reaching a given depth again more rapidly, and how much it may vary in the different classes of material which make up the crust of the earth. A further and growing reason for inquiry into this subject exists in its bearings upon deep mining operations.

Among accurate researches into the temperature of the earth at great depths, those of Mr. Walferdin are well deserving of attention, carried out as they were in a bore-hole deeper than any which had previously been executed. The massive and yet contorted principal seam of coal at Creusot being thrown down by a dislocation, bore-holes were put down. At the Mouillelonge boring, the depth of which was 1,216 ft., the increase was found to be 1° Fahr. for 43·1 ft. depth. At the Torcy boring, 1,817 ft. deep, the increase was 1° Fahr. for each 56 ft. The results would appear to give a more rapid ratio of increase between 550 and 800 metres than between the surface and 550 metres, and it remained a question whether the effects of percussion in the deeper bore-hole had been increased. That undertaking was, in fact, fruitlessly continued until it had obtained a total depth of 920 metres, or 3,017 ft., English; and the impression among the local engineers when he visited Creuset, in 1866, was that the increment had remained much the same—1° Fahr. for each 54·7 ft. By way of comparison, we may be reminded of the elaborate series of observations conducted in our deepest English coal shaft, at Dukinfield, by Mr. Fairbairn, and whence he calculated that from 231 yards to 685 yards deep, or 693 ft. to 2,055 ft., the bottom of the shaft, the increase was such as to give 1° Fahr. for 76·8 ft. At this rate, the temperature of boiling water will be reached at the depth of 2 1-2 miles from the surface, whilst by the French experiment it would occur at a depth of about 1 3-4 miles.

The coal miners of Belgium, in the exploration of their narrow and highly-contorted coal-field, have within the last few years sunk some of their pits, especially in the neighborhood of Charleroi, to depths which in several instances exceed the workings of any other part of the world. Mr. Smyth acknowledges the kindness of Mr. Jules Gernaert, the efficient Inspector-in-Chief under the Belgian Government, for observations recently made in one of these collieries. The recorded temperatures, it will be seen, are those of the air in various portions of the excavations; and some allowance may, therefore, be made in those parts where the warmth is increased by the presence of men; while the down-draught of the ventilating current will be observed to cool in a great degree the neighborhood of the pit. At the Résolu Pit, Grand Mambourg Colliery, Montigny, the temperatures were, surface, 33° Fahr.; at 2,180 ft. deep, 50°; and at bottom of upcast (1,922 ft.), 72·5° Fahr.; and if the mean annual temperature of the district be taken at 51° Fahr., it is clear that —the observations being made when the thermometer at the surface was almost at freezing point—the temperature of all the workings up to the face of the coal was considerably reduced by the coldness of the in-taken air; and the rate of increase to the depth can hence only be roughly estimated at 1° Fahr. for from 88 to 117 ft. At St. Augusta Pit, Bonne Espérance, Montigny, the temperature was 32° Fahr. at surface, and 49° at 1,886 ft. deep At Poirier Colliery, Montigny, the increase was from 32° Fahr. to 57·2° Fahr. in 2,309 ft.; at Sacrée Madame Pampreny, from 38·3 Fahr. to 47·3° Fahr. in 1,843 ft., and to 49·1° Fahr. in 1,974 ft; and at Pit Simon Lambert, at Gilly, the temperature was 78·8° Fahr. at a depth of 3,489 ft. This latter observation is interesting, as taken at the deepest point to which man has yet penetrated in the crust of the earth; but its correctness is doubted by Mr. Gernaert, and even if accepted, it can only be held along with the others just recorded to verify the general conclusion of the rapid rate at which an in-going current of cold air is heated by contact with the rock surfaces. The result is satisfactory in a technical point of view, as showing the moderate temperature which by means of active ventilation may be made to pervade the deep workings, but for scientific deductions we must await the series of observations which Mr. Gernaert proposes to carry out through different seasons of the year.

COOKING STOVES—Fig. 2.

Practical Letters.

[WRITTEN FOR THE AMERICAN JOURNAL OF MINING.]

ON THE VENTILATION OF COAL MINES—NO. XIV.

BY J. W. HARDEN, M. E.

RELATIVE VALUE OF POWER USED.

Of the power of the furnace with an upcast shaft not adapted to its perfect development, we have an instance in the Tyne Main Colliery experiments, brought to our notice by your contributor. With an upcast of 672 feet deep and 44.178 feet in area, there are 102,000 cubic feet of air per minute circulated through the workings, rarefied by passing over the furnace to a bulk of 131,501 cubic feet and lifted up the shaft at a velocity of 2,976 cubic feet per minute for each square foot of its area, at a water-gauge pressure, representing the drag in the workings and shaft resistance, as 18.60 lbs. per square foot, at a consumption of 16.76 lbs. of coal per minute. The useful effect, is, therefore, 6,080 cubic feet of air per minute, and 4.41 horse power utilized per pound of coal, a performance superior to that of Verzy's Ventilator by 1.09 horse power utilized, and 1 880 cubic feet of air per minute per pound of coal.

In the fact that "the action of the furnace gases combined with water so corrode the iron that it is necessary to line the shafts with wood," there is some objection to the furnace with a metal tubed shaft; but as regards their being "quite common in Europe," you may go through whole mining districts and hardly find one; though in the North of England, where water has to be put back, "metal tubing" is generally resorted to—more, indeed, than the prevailing methods of doing this in other districts would seem to warrant.

The cause of injury is the sulphur of the coals, volatilized by the furnace, combining with a portion of oxygen and forming sulphurous acid. This—Daglish says—possesses the property of taking up another portion of oxygen when in contact with moist air, and so forming hydrated sulphuric acid, this, being diluted with any water that may be leaking through the joints of the tubing, runs down the shaft, and as the boiling point of hydrated sulphuric acid is much higher than that of water, the solution increases in strength as it gets nearer the bottom of the shaft, and becomes highly concentrated and corrosive as it nears the furnace. I have seen old tubing taken out after having been so acted upon, that it could be cut, like black lead, with the knife; making one wonder how it had so long resisted the pressure behind it. But it may be protected, and in doing this with wood, I do not anticipate a very heavy item, as the "additional expense" suggested by your contributor. Wood answers the purpose in shafts where the temperature is not excessively high; but if it is not kept damp it will warp, and so become useless for the purpose intended; and the frequent driving of nails to repair it, will damage the wedging of the joints. It is not uncommon in the north of England to use masonry also for the purpose. A four inch lining of brickwork may be put in at a cost not exceeding double that of a half brick wall on the surface, the bricks being moulded to the sweep of the shaft. As it is necessary from time to time, owing to slight leakages, to re-wedge parts of the tubing, unless provision is made for this in the design and cast of it, there would be a difficulty in removing the brickwork for that purpose. The flanges of the tubing must, therefore, be made to project on the inside, the recesses thus formed being filled in with the brickwork, the flanges coming out nearly, but not quite flush with it. But the protection is thus not quite complete, the edges of the flanges being still exposed. These, forming spaces between the panels of brickwork, may be filled in with cement. Whether this or any other method adopted, is of a nature to completely protect the iron from the injurious action of the gases generated at the furnace, the time they have been in use has not been sufficient to prove; enameling has been suggested and rejected, after an inquiry into the cost. Messrs. COCHRANE & Co., of Staffordshire, have a process of coating cast iron pipes with black varnish. The pipes having been heated, are dipped into the mixture, and, on drying, they remain covered with a film of bright black varnish that appears almost incorporated with the metal. This is said to remain uninjured for many years.

But metal tubing is not a necessity in many of the cases to which it has been applied. The comparatively low pressures at which it has been used might often have been otherwise and more economically dealt with. With good sound bricks, hydraulic lime and soil puddle, I have put back feeders of water varying in pressure from that of 14 atmospheres, in a shaft of 12 feet in diameter, to that of little or no pressure in shafts of various diameters. Cement blocks are also used for the same purpose. But in dealing with large feeders at heavy pressures, dispatch is frequently an element in the cost. Metal tubing is then most economical, and in an upcast shaft, with the furnace as a ventilating motor, it must be protected; if near the bottom, with masonry, if out of the reach of the influence of the fire so that it will not warp, wood cleading will answer. In a length of 180 feet of tubing, in a 10 feet shaft sunk by myself, its mean distance from the furnace being 630 feet, and from the surface 300 feet, left unprotected, and carefully examined from time to time, I was never able to distinguish the slightest trace of acid; though at the bottom of the shaft the moisture collected was perceptably acid to the taste, and would act upon litmus paper. This leads one to the conclusion that, at such a distance from the furnace, tubing does not need protection. Much, after all, will depend upon the nature of the coal used at the furnace.

ERRATA.—In No. II, the 13th line from the commencement, reads thus: "is only that of 15 horses per pound of coal." It should have read, "is only that of 1.25 horses per pound." One and a half horses power having been intended.

[WRITTEN FOR THE AMERICAN JOURNAL OF MINING.]

LESSONS ON MECHANICAL DRAWING.—No. XVI.

BY T. P. PEMBERTON.

THE PROTRACTOR.

Experiment has proved that it is one of the most difficult of mechanical operations to divide accurately the circumference of the circle into equal parts. It is at the same time of the greatest importance that the circle should be so divided, for the many scientific purposes for which it is employed. In astronomy and navigation, it is the rule by which the earth and the visible heavens are measured. The mariner's compass, for instance, is an artificial representation of the horizon of any place. It consists of a circular piece of paper, called a card, divided into 360 degrees or 32 points. The laying down and measurement of angles are operations which the mechanical draughtsman should thoroughly understand, and, for this reason, I shall endeavor to explain two instruments, viz: the Protractor and the Sector, in a more comprehensive manner than is usually found in books upon mathematical and drawing instruments.

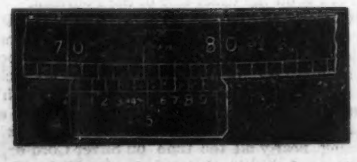
The circle, large or small, for scientific purposes, is uniformly divided into 360 equal parts, which are termed degrees, indicated (°); each of these degrees is divided, or presumed to be divided, into 60 parts or minutes ('), and each minute into 60 seconds ("). In practice, particularly for drawing purposes, the circle is seldom divided closer than half degrees: when further division into minutes is required, it is accomplished by what is termed a *vernier reading*. Be-

fore explaining this, I shall speak of the instrument known as the Protractor, by means of which angles are laid down or measured with greater facility than by the use of chords. The Protractor furnished with a case of drawing instruments is generally in the form of a semicircle of brass, horn, or cardboard. It is divided into 180°, every fifth and tenth degree being distinguished by lines drawn the one half-way and the other entirely across the face of the Protractor. The degrees are numbered 10, 20, 30, etc., to 180°, both ways, as indicated in the annexed diagram.

To measure a given angle by the protractor, let the centre of the instrument and the angular point, C, coincide, and the straight edge of the protractor lie evenly on the line, C A; then the other line, C B, will indicate on the graduated edge of the instrument the number of degrees contained in the angle. To lay down an angle, draw a line, say C A; fix the protractor as in the former case, and with the protracting pin (which screws into the drawing or lining pen), or with a finely-pointed pencil, mark off above the line, C A, and along the graduated edge, the number of degrees required for the angle; then remove the instrument and draw the line, say C B, from the angular point, C, through the point of measure, and the operation is completed. The angle, A C B will be the angle required.

VERNIER READING.

This is a very simple and exact method of subdividing, that owes its high scientific value to a simple theorem in natural optics, viz: that the eye can readily observe whether a line be continuous or broken, although it can in no way accurately measure the distance of any separation. It will be necessary to fully describe the vernier, as it is so constantly used wherever exact division of the circle is required.



The Vernier Scale is a short scale attached to the divided edge, or what is technically termed the *limb* of the instrument, in such a manner that it will slide evenly upon or around it, and that the divisions upon the vernier will form continuous lines when opposite to the divisions upon the limb.

The vernier being used to subdivide the divisions of the limb, it is divided for this purpose into as many spaces as the subdivisions required. These spaces correspond with the lines upon the instrument within one division in the quantity —thus: To divide half degrees into minutes—that is, into 30 equal parts—the vernier would have 30 spaces between the divisions upon it, but the 30 would be divided either in a distance equal to that occupied by 29 or 31 of the spaces upon the limb. In practice the 29 is uniformly adopted. In reading the vernier, the fractional quantity is taken at the division where it becomes coincident with a division upon the limb; that is, where the line appears continuous. This will be better explained by reference to the illustration, which, for clearness, is shown dividing the degree into ten equal parts. In this the space of nine degrees of the limb are taken off upon the vernier, and this space is divided into ten equal parts. To read it in the position here shown, the division on the limb which is nearest behind the first division of the vernier is taken, which in the figure is 70. Now, to know how many tenths of a degree it is past the 70, we refer to the vernier; here we see that the 7th division of the vernier forms a line with one of the divisions upon the limb, therefore, the reading in the present position is 70·7 degrees, or 70 degrees and seven-tenths of another degree.

The 7 of the vernier in the illustration reads into the 77 of the limb; this may cause a little uncertainty as to which the fractional 7 is taken from. It may be well to repeat that the fractional reading is taken from the *vernier only*, where one of the lines appear continuous with any one of the lines on the limb, without regard to which one.

It will be obvious that the vernier is equally applicable to the straight line as to the circle, although seldom applied to drawing instruments, except occasionally to the beam compasses.

Improvement in the Krupp Cannon.

The improvement in the Krupp Cannon, productive of such formidable results, consists in the enlarging the chamber in which the cartridge is lodged. The charge is to be double what it was, while the ball remains at its former weight of 200lb. When tried side by side with the 9 inch Armstrong, having a ball of 227lb., the Prussian gun, it is alleged, proved greatly the superior.

Mining Summary.

GOLD AND SILVER.

Colorado.

THE STAMP MILLS OF GILPIN COUNTY—THE GEORGETOWN SILVER MINES AND REDUCTION WORKS—INTERESTING STATISTICS AND NEWS SUMMARY.

We cull from editorial letters in the *Rocky Mountain News* of Denver City, some very interesting facts this week, relative to the stamp mills of Gilpin County and the Georgetown silver mines and Reduction works. We cannot forbear remarking in this connection, while passing, that in previous issues of the JOURNAL OF MINING we have presented copious extracts from the letters of the series to which the following belong—and that the credit of this production is due to Mr. W. R. THOMAS, the associate of Mr. HOLLISTER on the editorial staff of our enterprising contemporary. It may not be out of place also to state here, for the information of those of our readers that may wish to obtain this series of really valuable letters complete, that they can in all probability do so by addressing the publishers of the *News*, as above, with an enclosure sufficient to pay the subscription price of the paper.

Following are Mr. THOMAS' remarks, bearing date Sept. 27, on the stamp mills of Gilpin County:

"I was aware from the report that there was great activity among the mills of this county, but I have found far more than I had anticipated. It is something less than a year and a half since I was last here, and the change which has in that time taken place is most marked and encouraging. Then, all was stagnation and depression; now, everything is active and prosperous. Men are mining, milling, and making money; business is lively, and every one sees the dawn of better times. In the two days and a half which I have had to spend here—a ridiculously short space of time—I have visited all the mills to learn the number of stamps running, and the average amount of ore being crushed. The mines I did not visit, for I had not time. In fact, information concerning milling has been less sought for, and is more needed by the public than any long description. That the mines are here, and are rich, is a fact never questioned. How to get the gold out of them, however, has been the question for years. Whether it will remain so, much longer, is doubtful. Stamp mills were once abandoned, but stamp mills are now making money, and I believe could have been doing so during all these long years of dullness—if people had only thought so. In making my ride through this section, I believe that I have obtained every mill that is now in operation. If any have been missed, it is because I could not find them, or my friends did not tell me where they all were. The following table is, I think, very nearly correct:

STAMP MILLS IN OPERATION.

Mills.	Nu'ber of Stamps.	C'ds of Ore Crushed Per W'k.
Peregrine's	12	6
New York	35	24
Dickinson's	15	9
Black Hawk	80	35
Miller & Buffington's	12	8½
Fitzpatrick's	10	7
Hurd's	20	14
University	15	9
Miley, Sanderson & Co's	16	8
Douglas	20	12
Sterling	23	8
Terry Smith & Co.'s	20	12
Brigg's	50	20
La Crosse	12	3½
Conlee's	18	7
Ophir	24	14
Philadelphia	25	16
Kansas-Colorado	12	5½
Stoner's	12	6
Pacific National	24	12
Mansur's	12	6½
Clayton	9	4½
Beverly	9	8
Whitcomb's	12	7
North Star	17	8
Alps & Grenada	12	4
Montana	15	10
Lexington	24	12
Sensenderfer	20	6
Narragansett	40	20
Delaware	20	9
Kip & Buel's	12	7
Wilson's	15	8
Cheney's	12	5½
Brastow's	20	8
J. Toscher's	12	7
Kimber's	12	8
Barret Co.'s	20	15

"The totals of these figures are as follows: Mills, 38; stamps, 745; ore crushed, 392 cords per week. Estimating 7 tons to the cord, we have 2,744 tons; while estimating 8 tons to the cord, we have 3,136 tons. I give each estimate, because there is a difference of opinion among mill men as to what a fair average is, as different ores vary. The majority, however, say 8 tons to the cord, and on this basis I shall therefore figure. The table given is in itself a proof of the activity of Gilpin County. Mill men inform me that the supply of ore is about sufficient to keep their stamps running, but as yet there has been no surplus. Thus far the supply has been equal to the demand. In anticipation, however, of a large supply of ores, a number of

NEW STAMP MILLS

are being erected, and will be completed during the coming season, by the following parties: J. Sensenderfer, building (stone) 40×60, 40 stamps—probable cost, $15,000. Miley & Abbie, building 50×50, 25 stamps—probable cost, $10,000. Lake & Fields, building 30×40, 25 stamps—probable cost, $10,000. Nesmith & Co., building 26×36, 20 stamps—probable cost, $10,500. New Beverly Mill, building 30×40, 12 stamps—probable cost, $5,500.

"Besides these are the new mills of the Consolidated Gregory and Smith & Parmelee Companies, which will be noticed hereafter.

WATER VS. STEAM.

"Since the revival of mining, there has been no little competition between millmen for ores, and the competition has not only brought down the price of crushing, but has also demonstrated the cheapness of water over steam in a very practical manner. The prices charged this season have been from $25 to $40 per cord, the average price probably being $35. With an increase in the number of mills, as there will be next season, this figure will doubtless be reduced, unless there should be a very large increase in the supply of ore. Water mills can crush ore at $15 per cord, while steam mills cannot afford it for less than $20. On each of these figures, there is only a slight margin for profit, if any. Were water power more abundant, and more certain in the vicinity of Black Hawk, there would be few steam mills in operation.

ACTUAL COST OF MINING AND MILLING.

"I have always found it extremely difficult to obtain anything like a correct idea of the separate cost of mining and milling, in fact to arrive at any idea concerning expenses at all. Mining superintendents either have not attempted to arrive at any such important figures or else have not given them to the public. This time I found only two mining agents who had the figures at their immediate command. The first of these was Col. Geo. E. Randolph, Superintendent of the Ophir Mining Company.

"Col. Randolph has been in charge of the Ophir Company since the middle of April, and from the day he began has kept a close and accurate account for the purpose of finding out this very fact. He kindly permitted me to take the following statements from his books:

"In the month of May the mill—24 stamps—crushed 180 tons of second class ore, at a cost of $4 62 per ton. Twenty-three and a half tons of first class ore was sold at $93 per ton.

"In the month of June, 296 tons, second class, were crushed at an expense of $4 26 per ton. The cost of mining was $11 37 per ton, making the total expense per ton $15 63. During this month eight tons of first class ore were sold at $95 per ton.

"In the month of July, 379 tons of second class ore were crushed, at a cost of $2 85 per ton, the cost of mining being $11 42, making the total expense per ton $14 27. This month 4 1-2 tons of first class ore were sold at $98 per ton. In the month of August 455 tons of second class ore was crushed at a cost of $3 65 per ton, cost of mining $13 79 per ton, total expense $17 44 per ton. This month 12 1-2 tons of first class ore were sold at $104 per ton.

"I regard these figures as of more value than any I have been able to publish this season. They are the first of the kind I have ever seen, and I know them to be as near correct as it is possible to make them. My own thanks, as well as those of the public, are due to Colonel Randolph for them.

"Mr. Geo. T. Clark, Financial Manager of the Sensenderfer Company, was also able to give me similar figures, although not separately for mining and milling. In the month of August the mill—20 stamps—crushed 24 cords of ore. The whole expense for mining and milling was $3,474 46, or $144 75 per cord. The average yield of this ore was sixteen ounces of gold per cord. Few companies are managed with equal ability, and none are more profitable. In two years, ending September first, 1868, they have crushed 4,840 tons of ore, which has yielded a total of $197,575.

OTHER COMPANIES.

"Mr. Gould, of the Sterling Mining Company, informs me that during thirty days he mined forty cords of ore, selling first class at $221, currency, per ton; second class at $78 85, currency, per ton; and the third class yielding $150 per cord in the stamp mill. The proportion, Mr. Gould says, was 1-10 first and second class, and 9-10 third class.

"The Consolidated Gregory Company is now under the management of Mr. T. J. Richman. A one hundred stamp mill is being erected. Fifty stamps will be ready to run by November first, and the balance next season. The mine is being developed, in the meantime, and put in a condition to work one hundred men, if necessary.

"The Smith & Parmelee Company are putting up a new twenty-five stamp mill, and have a new seventy-five horse-power engine. The work will be completed and the mill running by November 20.

"As a proof of the profit there is in crushing ore by water-power, I might mention the mill of Terry, Smith & Co., twenty stamps, which was put up at a cost of $7,000, and started on the tenth of June. Since that date the mill has more than paid for itself."

THE MINES AND REDUCTION WORKS OF GEORGETOWN.

The following letter, which bears date Sept. 23, has reference to the Georgetown Silver Mines and Reduction Works. Says the writer:—"The mountain peaks about the town present a most uninviting and wintry appearance, and will rival in these September days, the month of December and January. This cold, snowy, wet and disagreeable weather has not a little interfered with my observations about this place. I have remained longer, and seen less than in any other part of the mountains. After traveling for over two months in the mountains I will freely give Georgetown credit for having the most inaccessable mines in Colorado. From this place, a minute description of the lodes and mines is less desirable than in newer and less developed districts. The question to be asked and answered here is: Do these mines pay to work? No one doubts that there are lodes, every one believes there is silver in them. 'How much,' and 'what are the profits?' are the questions which now rise to the lips of the capitalist. Men used to be anxious to own mines. They are now in search of profitable mines. This question of profit is admirably settled by the operations of the reduction works. Remarks concerning them would naturally come last, but I place them first because I regard them as most important.

"These reduction works must in the first place be set down as ridiculously small and inadequate. The general rule in our Territory has been otherwise; but Georgetown can and does produce more ore than there are reduction works to handle. These works were erected here in the early history of the mines, and are on an experimental rather than a practical working scale.

"The Georgetown Smelting Works have been run this season for seventy days, less time of delays on account of repairs, etc. The company have paid the following prices in currency for various lots of ore as follows:

4½ tons	"Terrible" ore, at		$394 44 per ton.
1 "	Hise	"	659 00 per ton.
3 "	Coin	"	546 00 per ton.
5½ "	Terrible	"	518 18 per ton.
7 "	"	"	675 00 per ton.
4 "	"	"	500 00 per ton.
4 "	"	"	430 25 per ton.
2 "	J. J. Roe	"	560 00 per ton.

These prices paid by the company show most clearly the richness of the ore, but the amount of silver which was taken out of the different lots, I was not able to obtain, as many of them were mixed in working. The only separate run I could obtain was twenty-one tons of ore from the Brown lode, which yielded $221 24 in coin per ton. During the seventy days which the furnace was in operation, one hundred and one tons of ore from various lodes were worked, and the total amount of silver shipped from the works was twenty thousand ounces. For the average yield of the ores run, therefore, we have a small fraction over one hundred and ninety-eight ounces per ton.

"The works of Messrs. Huepedan, Wolters & Co., have been in operation since May 3rd, less delays for repairs. I have been able to obtain some of their runs, the figures being taken directly from the company's books. They are as follows: 31 tons 'Equator' ore, average assay, 118 6-10 ounces per ton, total yield $3,823 66 in coin, average per ton, $123 34 in coin. 10 tons 'Equator' ore, average assay, $158 4-10 ounces per ton, total yield $1648 40 in coin, average per ton, $164 84 in coin. 10 tons 'Equator' ore, average assay, 124 7-10 ounces per ton, total yield, $1,300 in coin. 24 tons 700 pounds 'Baker' ore, average assay, $57 29 per ton; total yield, $1,120 40 in coin. 12 1-10 tons 'Astor' ore, average assay, 12 3-4 ounces per ton; total yield, $1,569 19 coin. 8 tons 'Buckeye' ore, average assay, 77 1-4 ounces per ton; total yield, $618 58 coin. 20 tons 'Clift' ore, average assay, 72 ounces per ton; total yield, $1,497 60 coin. 2 35-100 tons 'Clift' ore, average assay, 90 ounces per ton; total yield, $223 02 coin. 9 1-10 tons 'Lillie' ore average assay, 150 ounces; total yield, $1,406 28 coin. 8 tons 'Sonora' ore average assay, $80 03 per ton; total yield, $512 24 coin.

"These ores are all second class. The amount saved is from 80 to 85 per cent. of the assay. In one case only it is below 80 per cent., and that is the lot of nine and one-tenth tons of Lillie ore, and that was 79 7-100 per cent. of the assay.

"The total number of tons run in these works from May 3rd to September 1st is two hundred and forty-four tons, being ore from twenty-five different lodes, and the total amount of silver taken out is $21,248 29, coin value.

"These figures give a very correct idea of what these silver lodes can do, or rather what their second class ores can do. First class ores are and will be shipped east for reduction to Newark. The only figures which I obtained regarding the ship-

ment of ores was from Mr. Simmons of the Equator Mining Company. The company are working the Equator lode, and have on it a main shaft 100 feet deep, a drift east of 79 feet, and one west of 109 feet. The mine has yielded one hundred and forty tons of second class ore, and forty-two tons of first class. The first class is shipped east at an expense of $118 75 per ton, and its average yield is $900 per ton. I have never seen finer ore than has come from this mine, and all the work done on it has been performed in a very substantial and intelligent manner. At present, there is no more promising mine in Colorado.

"I have also seen the Magnet, Herkimer, and several other lodes, which are being opened, among them the Summit, which is being opened under the direction of R. F. Lord, Esq. There is a tunnel on the crevice of 45 feet, and a shaft 150 feet from the mouth of the tunnel, 44 feet deep. This shaft for a distance of 23 feet, opened a rich vein of sulphuret ore from 4 inches to 7 inches in thickness. The selected ore from the lode has yielded in the works of Huepedan & Wolters $715 coin per ton, while its average yield is $200 coin per ton. The mine is being well opened by an experienced manager, and he work is substantial and complete in every particular, making it as good an opened mine as there is in Colorado.

TUNNELING.]

"The great heights at which these Georgetown lodes are situated, will render tunneling necessary to their more profitable development. A tunnel driven under any one of the mountains about Georgetown, will strike many lodes in each mountain at depths varying from 100 to 1,000 feet. Several of these large tunnels have been proposed, and the Marshall Silver Mining Company are now at work at one. It will run under Leavenworth mountain, and will be 3,912 feet long. In the first 1,888 feet, it will open 15 known lodes, the first at a depth of 100 feet, and the last at a depth of 1,060 feet. Among the lodes which this tunnel will open, is the Equator, which at a distance of 584 feet will be struck at a depth of 350 feet. The running of these large tunnels will take great capital, but they offer rare inducements for profit. My own opinion is, that all of these lodes must sooner or later be worked by tunnels. I could have remained for several weeks about Georgetown very profitably, but my time was limited, and therefore no one is better aware then the writer, that the present letter is a very imperfect resume."

Montana.

NEWS FROM BANNACK AND OTHER DISTRICTS.]

A correspondent of the Montana *Post* writes of Bannack District, saying:—"The wealth of the gulches and placers in this vicinity has lain idle and untouched for a long time, being abandoned for many years on account of easier worked diggings in the western portion of the Territory. But the tide is changing, hope and faith are again in the ascendancy among old Bannackites. It has been proven beyond a doubt that the main gulch, for ten miles below the town, contains rich deposits; but, owing to the peculiar formation in it of sedimentary deposits, a superabundance of seepage water and limited fall, a resort to lengthy and therefore costly drain ditches is necessary, in order to permit of profitable working. One of the latter I visited. It is located near the head of the first canyon below Marysville. The peculiarity of the formation spoken of necessitated tight planking on the sides in the whole length of the drift—five feet high by three feet wide. The seven sturdy sons of toil who compose the company owning this work, style themselves 'The Grasshopper Drain Ditch Company,' and have, since the 8th of October, 1867, worked day and night, winter and summer, without intermission, to drive their drift to its present length—fourteen hundred feet. Next spring they hope to strike bed-rock at the head of their ditch. Below and above this, several companies are successfully at work, if I can give credence to reports, getting prospects weighing from fifty cents to ten dollars to the pan. From an undisputable source I have it that as high as ninety dollars was taken from a single pan. There is yet much ground lying idle, awaiting re-location by enterprising miners. But let it not be supposed that fortunes can be made here without energy, perseverance, and an outlay of some cash. It requires all these to work in Grasshopper. The main interest of Bannack is now the extensive placers of 'The Bannack Ditch Mining Company,' west of the town. With Messrs. A. J. Smith and G. Graeter I paid this ground a visit. A ditch—or, more properly, two ditches, one's source at a fork of Grasshopper, and the other bringing part of the waters of Horse Prairie Creek—are found sufficient to work the mines. The two ditches are over fifty miles in length, and cost seventy-five thousand dollars. The mines are near what is known as the old Salt Lake Road, and consist of a succession of low sage-brush covered hills, intersected by many ravines and small gulches. As far as prospected, and within reach of the water, the company have five miles east and west, by one mile north and south, of well paying ground. Every portion of these hills and ravines pays well; but on the subject of yield to the hand, my gentlemanly conductors remained dumb. Under the experienced foremanship of Mr. Patrick Holehan, the area spoken of has been worked into such a shape as to work to the greatest advantage. Five hydraulics are tearing the gulches and levelling hills day and night, and some of the ditch water is used four times, ere it mingles its murky flood with the clear current of the Grasshopper, half a mile above town. The gold from these hills is fine in size and quality, and now sells at $25 25 currency. Quartz mining is not as vigorously prosecuted as formerly. But one of the many mills is running and doing custom work. It is the twenty stamp mill of the M. M. L. & M. Co., commonly known as Clark & Kirby's. But I learn that it also will soon stop. A cut-off of forty miles may be made in going from Helena to Salt Lake, and a saving of eight dollars toll on every two horse wagon, be effected by going from the metropolis to Deer Lodge, thence over the divide to within a mile of Braugh's Ranch on Moose Creek, striking down the Bighole and across to Argenta, from there on a good road to Horse Prairie, and in place of following the old road, striking south through Medicine Lodge Pass to Kamas Flats."... The Virginia City *Democrat*, October 3, has the following additional items from Bannack and vicinity:—"Mining at Bannack is still progressing finely, that camp having an abundant supply of water all the year round. White & Co., whose ditch was completed to their best diggings early last month, have been working since that time with success fully up to their expectations. Nothing short of first-rate pay will compensate them for their long and persistent labor. Their ditch, considering its length, cost more than any similar work in the Territory. Deriar & Co., who, by their own personal labor and skill, have erected a furnace about a mile above town, are now about to begin operations. There is no reason to doubt that they will make their venture a success. Mining at Horse Prairie is about to close for this season, owing partly to a failure of water and partly to the fact that (the altitude of the place being very great) the nights are becoming almost unendurably cold. There are good diggings there that will last for years yet. The St. Joseph Mining Company, Major Brookie Superintendent, have completed their furnace at Argenta. They have been fortunate in securing the services of Mr. Knabe to manage it. He is said to have a good theoretical and practical knowledge of the proper method of reducing silver ores. The company has already mined and ready for smelting a large amount of rich rock, and the prospects for an unfailing supply of the same are good. Andrew Murray is busily engaged in taking ore from his portion of the Stapleton and Silver Light Lodes. It is expected that he will start up his furnace again soon."....J. B. Loman, from Silver Star District, says "that Stephens' Mill is in full operation, crushing ore from the Iron Rod. Everett's Mill had started on rock from the Green Campbell. This mill is represented as a ten-stamp mill, and as such one of the finest in the Territory."....According to the *Post*, "the ground in Confederate Gulch, below Diamond City, bids fair to very nearly equal in richness that above the town. In the claim situated about 800 feet below the head of King & Gillett's Flume, a prospect of $2 63 to a pan of dirt has been obtained, and the smallest sum taken from the bed-rock is twenty cents to the pan....The Plymouth Mining Company, represented in Montana by Mr. W. M. Burdick, recently arrived in Helena, is about to erect a fine quartz mill on the War Eagle Lode in Greenhorn Gulch, some nine miles from Helena city. This mill, which is provided with ten stamps, and is adapted to twenty, is now on its way from Benton, and will be up and ready to commence running in two or three months. The mine upon which it is to be erected is considered one of the best in the country, is of good width, shows splendid quartz, and prospects at the rate of from ten to twenty-five cents to the pan of dirt....A great thirty-stamp mill is now lying at Benton, awaiting transportation to this vicinity. It is owned by the Illinois and Montana Mining Company, and will probably be erected in Mitchell Gulch, on quartz property belonging to them. This property, which was purchased of Mr. J. F. Mitchell, is now being developed in a most thorough manner, and the first move towards erecting the mill will not be made until the ledges have been opened to such extent as will conclusively demonstrate their value. In conducting his work in this manner, Mr. Hazard, the representative of the company here, and an old Coloradian, shows that he thoroughly understands his business, and sets an example which would redound greatly to the prosperity of the Territory, if closely followed."....Says a correspondent at Summit:—"The Postlewait and John How Quartz Mills are both running. The former is crushing rock from the Keystone Ledge, which yields about thirty dollars per ton. Work will be prosecuted on this mine during the entire winter. The John How Mill is running on the Steel & Messler Ledge, but soon expects to commence crushing rock from the Kearsage, a mine which never looked better than at present. The damage done to the bed-rock flumes in the vicinity of Summit by the recent cloud burst, has been repaired, and claim owners are at work cleaning up their thousands of dollars every day, as if nothing had happened. Summit shows more signs of permanency than for a long time before, and has had more buildings erected during the present season than during the past three years."

Arizona.

We find in the columns of a San Francisco cotemporary the following interesting letter upon Arizona, with especial reference to its mineral resources, and the physical character of the country. The writer, dating from Hardyville, Aug. 24th, says:—"How often do we hear the assertion made that Arizona is the richest mineral country in the world. The early explorers pronounced it a country rich in minerals. Gold, silver, copper, lead and iron was found by nearly all the first exploring expeditions that passed through the Territory. The first settlers in the Territory talked long and loud of the vast mineral resources of the country, and every dollar that was taken out of the ground by miners was enlarged twenty-fold. Indian depredations were winked at and concealed for fear that some one would not dare to come to share the great fortunes of the great mineral country. Although the territorial government has been established upwards of five years, and the Territory has now a population of from 12,000 to 15,000, yet no substantial evidence has been brought forward to prove the first assertion that Arizona is a great mineral country. I mean by substantial evidence that there are no large shipments of bullion regularly every week or month, as is being done from Montana, Idaho and Nevada.

WHY ARIZONA DOES NOT PROGRESS.

"The hostile tribes of Indians have been and still are a great barrier to prospecting and mining. The Indians still control the destinies of the Territory, and till this barrier is removed there is a good and just reason for not sending forward substantial evidence of the mineral wealth of the country.

PHYSICAL CHARACTER OF THE COUNTRY—VOLCANIC ORIGIN.

"About one-fourth part of Arizona may be put down as fit for agriculture and grazing, about one-fourth a barren, sandy waste, about three-eighths is covered with lava from extinct volcanoes, and about one-eighth may be put down as mineral, or where the bed rock is of primitive formation, and would by its appearance induce a miner to look for mineral. The great plateau of the northern part of the Territory is one vast field of lava. A miner of much experience, who has recently made several tours through Arizona and acted as guide to Col. Price in hunting the Indians, asserts that to all appearance a great outburst of volcanic or conglomerate materials has occurred somewhere to the north of the great bend of the Colorado River, in the vicinity of Buckskin Mountains (near latitude 30, longitude 114 on the map of Arizona.)

FORMATION OF THE COLORADO RIVER.

"This great flow of conglomerate matter, flattened out into a vast plain, covering the primitive bed rock, also damming up the great Colorado River, thus forming an inland lake. After the lapse of time, the Colorado River broke over the dam, and as this conglomerate mass was not yet fully hardened, the river soon wore a channel through, and formed the great canyon of the Colorado River. This theory is fully sustained by the evidence of one James White, who floated through the great canyon on a raft from the confluence of Grand River to Collville. White asserts that for at least 500 miles the Colorado River is confined in a canyon of perpendicular banks of dark conglomerate rock. For 200 miles below the confluence of Grand River with the Colorado, the banks are not very high in the immediate vicinity of the river, but slope off in benches until within from three to five miles, the tops of the main mountains on the plateau may be reached. The bed rock in the vicinity of the river appeared to be a sediment formation as formed at the bottom of the lake. This sediment formation overlapped granite and slate at various places through the great canyon, where the precipitous rocks varied from 3,000 to 8,000 feet. White noticed that this conglomerate rock overlapped different kinds of rock that cropped out near the water's edge. The writer has been at the mouth of the great canyon, also on the great plateau and through what is called Black Canyon, below Colville, and has noticed this to be a fact. Many other travelersand explorers have also made mention of this fact. A miner might as well prospect the Pacific Ocean, where the water is from 3,000 to 5,000 feet deep, as to prospect one of these fields of lava.

MINERAL DEPOSITS—PORPHERY BEDS.

"Three-eighths of the whole surface of Arizona is covered with this conglomerate rock or lava, that has been thrown out of some extinct volcano by the action of fire. In the vicinity of these beds of volcanic formations may be found, like islands in the ocean, small and sometimes quite large patches of porphery, mixed with calc and fluorspar. Sometimes beds of a material resembling hot ashes, so soft and loose that one cannot walk across without miring in from one or two feet, are found. In these beds may be found large masses of crystalized calcspar. It is said that in former times large masses of native silver were found in these beds of ashes, but no good proof has ever come to the writer's notice confirming this statement. In the vicinity of Prescott the formation is of a primitive nature—granite and slate. This primitive formation extends for 60 or 70 miles to the east of Prescott, and varies in width from 10 to 40 miles wide. In bearing west towards Wickenburg, we find croppings of granite, slate and porphery. As a general thing, gold is quite as much out of place when found in porphery as silver is when found in slate. The Vulture mine at Wickenburg, although at present very rich in gold, may, as it is more thoroughly developed, yet turn to silver. In going east from Prescott the rock soon changes, and as we climb the mountains on the west of the Rio Verde the rock is of a secondary formation, and we soon find ourselves on the great Mogollane Plateau. From here to the east and south, nearly to the Mexican line, the bed rock is mostly of secondary formation. But to the west of this, through the Tonto country, or what is called Tonto Basin, may be found a primitive formation, and prospectors report a favorable country for gold and silver, but the Apaches are too plenty to make mining profitable.

SOUTHERN ARIZONA.

"In the southern part of the Territory a large part of the country is covered with lava; a portion also is covered with sand and a desert waste. Through the whole of the southern part of Arizona, as well as Sonora in Mexico, may be found fields of porphery and croppings of silver-bearing rock. In the vicinity of Tucson are some mines of silver that are said to be valuable; but, at present, they do not produce any of the substantial proofs of a mineral-producing country. The future of the southern, like most of the northern parts of Arizona, is in the prospective."

Idaho.

OWYHEE AND FLINT DISTRICT NEWS—ANOTHER HUGE BRICK—NEW STRIKES AND DISCOVERIES—ASSAY STATEMENT, ETC.

We condense from the *Owyhee Avalanche*, Oct. 10th, the following items of news:—"At the Poorman, preparations for winter are actively progressing. A most substantial and convenient ore chute has just been completed, and a comfortable and commodious boarding house has also been erected. The stone and frame work for the reception of the new hoisting works are up and will soon be enclosed. A large amount of wood is on the ground, and everything will soon be in shape so that winter will not retard the working of the mine. Donnovan & Co. are at work on their new discovery, the Peru. A well-timbered, double shaft, 4×8 1-2 feet is already down the lode 25 feet. It is the intention to sink it to a depth of 100 feet and then drift south towards the gulch. The lode varies from 18 inches to three feet in width, and contains black sulphurets of silver in richly paying quantities. Water is found from the surface downwards, which is considered evidence of a true vein. It is situated on the north side of Flint Gulch, near the mouth of the Webfoot, and those who profess to understand the matter are of opinion that the Peru is on the exact line of the Poorman. Some specimens taken from the mine are certainly very much like the rich silver ore of the Poorman. The Silver Cord appears to be regaining its once famous prestige for richness. At the mill there are several tons of ore, in almost any of which fine gold is plainly discernible. It was taken from the mine at a depth of 60 feet below the main tunnel and about 100 feet from the surface. A valuable addition is being made to the Cosmos mill, which is now kept running nearly all the time on Silver Cord ore. Six new settling vats are being constructed, which will double the settling capacity. It is expected that the mill will be kept running all winter. We recently mentioned that another rich strike had been made in the Oro Fino. A rich deposit was found in the main shaft, 249 feet from the surface. At that depth the talcose gold-bearing quartz appears to be running out, and instead of which a light-colored silver ore is now found. A large ore chute has been built close to the road, and an engine house and other necessary buildings are in course of construction. Messrs. Smith & Knowles are busy at work on the Rapidan, on which they have a tunnel of 80 feet, and are taking out quartz in which large quantities of free gold can be seen. The ore contains but little silver, and is therefore easily worked. Trask and Son's arastrar is now running in it. At the Columbia they are taking out fine-looking ore, which contains considerable silver and also free gold plainly visable. It appears to be nearly of the same character as the Oro Fino. A shaft is down 70 feet, from the bottom of which a drift has been run north 30 feet. A south drift has also been commenced. The vein of quartz is about 4 1-2 feet wide, with casings perpendicular, smooth and well defined. A splendid incline shaft, 4×6, is being sunk in the Nevada lode. It is now down 70 feet and timbered in the best manner. A brick worth a little over $22,000, run from ore taken from the Ida Elmore mine, has been sent to San Francisco."....Later advices from Flint District, says:—"Work is rapidly progressing on the Rising Star mill. Mr. Perry is taking rich ore out of the Forest mine. Black's mill will soon commence crushing the Rising Star ore belonging to the Iowa Company. Peck and Porter have purchased the Pompeii mine in Flint. There is over 3,000 feet in the claim, which is one of the best in the country."....The Lewiston *Journal* of the 26th ult., says of the newly-discovered mines, twenty miles from Pierce City:—"The first discovery was made on Gold Creek, and diggings of sufficient merit found to warrant Messrs. Capps & Boyd in constructing a large water ditch, upon which they are now at work. The discovery of Gold Creek brought to that place many disappointed miners from the Cœur d' Alene excitement, and the result of their labor is the further discovery of Cow Creek—a stream three miles distant from Gold Creek, and lying between that creek and Pierce City. The diggings on Cow Creek are not over eight feet deep; the prospects average from the surface to the bed-rock eight cents to the pan. Ned Ryan took out of his claims as high as 75 cents to the pan. The gold is coarser than any ever before found in or near Oro Fino. The country around Gold and Cow Creeks is said to be a better-looking placer region than that of Oro Fino. Parties continue prospecting and are everywhere meeting with success. There are now from forty to fifty men at work. They have laid off a new town, and called it Parkerville, in honor of that whole-souled gentleman, Mr. J. H. Parker."....The Montana *Post* says of the Cœur d' Alene mines:—"Parties recently in from the Cœur d' Alene mines state that between forty and fifty men propose wintering in that camp. Sweeny is said to be doing well, and considerable confidence in the mines is expressed."....The following is the statement of the Assistant Assessor of Internal Revenue, showing the amount of bullion assayed in Owyhee County during the month of September:

	Gold.	Silver.
DeDonald & Co	$71,013 08	$18,809 25
Blake & Co	45,922 96	13,715 00
Total	$116,936 04	$32,524 25
Aggregate		$149,460 29

Nevada.

Bullion.—The Austin *Reville*, Oct. 6, notices the arrival of a lot of bullion, comprising 35 bars, averaging 960 fine, and valued at $48,493 56, brought into that city from the Centenary mill in the Newark District. The bullion was the product of ore obtained from the Eberhardt South and Keystone in the district of White Pine, and was reduced in one week at the Centenary mill. The same paper, Oct 14, tells of the arrival on that morning of 23 bars of bullion, averaging 945 fine, and valued at $31,263 89. The bullion was the product mainly of ore from the Eberhardt mine in the district of White Pine, and was reduced at the Centenary will. From the same paper, of the 7th inst., we learn that on that day four bars of bullion, weighing about 4,000 ounces, were brought into the city from the Old Dominion mill at Hot Creek. During the week ending Oct. 10, there were produced at the Manhattan mill 30,015 ounces of bullion.

Humboldt.—The Unionville *Register* of the 3d inst., says: "The machinery for the new mill for the Arizona Consolidated S. M. Company will arrive in a few days, and will be put up on Buena Vista creek, by Mr. Stewart. The mine is a good one, and will be put in readiness to turn out large quantities of ore before the mill starts up, which will be in about six weeks..... J. D. Minor, who has just returned from Dun Glen, reports that Mr. Smythe, who now has full control of the Monroe mine, has commenced hauling ore to the mill, and that the mine is looking better than ever before. Mr. Smythe is confident of being able to make the Monroe mine pay handsome dividends in a short time.....The Arizona and Pioneer mills are pounding away on rich rock from Gov. Fall's valuable mine on the hill...Fall & Co. shipped, per Wells Fargo & Co.'s Express, 2,700 ounces of fine bullion, during the week ending, Oct. 3.

Santa Clara.—Says the *Register*, Oct. 3: "Colonel Sargent has commenced work in this district on a ledge formerly known as the Magna Charta, and we hear from his foreman that the prospects of success are of the most favorable nature. The vein is five feet wide and well charged with pay ore. He proposes soon to build a mill, for which his eastern company has the money on hand, and is anxious to commence as soon as the ledge is sufficiently developed to warrant it"..Also of the Golden Dart ledge: "This rich gold ledge bids fair to eclipse in richness anything ever discovered in the gold line in the State. The vein is small, but the quartz fairly glistens with free metal. It is within about eight miles of the railroad, and its owners propose to ship the ore until they can arrange for the erection of a mill."

Star.—We are informed that both the Sheba and De Soto Company will soon resume work upon their mines. Both of these mines we are assured are among the most valuable in the State, and their owners have concluded, at last, to go to work systematically upon them.—*Ib.*

Nova Scotia.

GOLD PRODUCT.

We take the following from the Halifax *Mining Gazette:*

	ozs.	dwts.	grs.
July 1, 1860, to December 31, 1861, (estimated)	6,000	0	0
January 1 to December 31, 1862, (officially reported)	7,275	0	0
January 1 to December 31, 1863, "	14,001	14	14
January 1 to December 31, 1864, "	20,022	18	13
January 1 to December 31, 1865, "	25,454	4	8
January 1 to December 31, 1866, "	24,204	13	2
January 1 to December 31, 1867, "	27,294	11	11
January 1 to June, 1868, "	10,411	9	12
Total	135,664	11	15
Allow for gold stolen and not reported, at least	135	8	9
Total	135,800	0	0

This represents a gross value of two million, seven hundred and sixteen thousand dollars, Nova Scotia currency.

The quantity of gold at present reported for the month of September, amounts to 1,046 oz., 19 dwt., 17 grs.

Also, the following items of mining news: "Mr. Carnie, of Boston, has started the works of the Stanley Co., in Sherbrooke. A rich boulder of great width has been found on the property of the New York and Sherbrooke Co., and they are now searching for the lode, which the depth of soil and extremely wet weather render a somewhat arduous task. The Palmerston, Wellington and Hayden and Derby Companies have sent up substantial results, and the Canadian Companies are making good and hopeful progress. . . . Parties from Boston have arrived in Ovens to superintend the erection of a furnace on Captain Cornwall's property, and they have already made rapid progress."

Canada.

MADOC GOLD FIELDS.

NEW YORK, October 23, 1868.

EDITOR AMERICAN JOURNAL OF MINING:

Having recently visited the above region, and given the same a pretty thorough examination, I ask a space in your Mining Summary, to give to your readers, and especially to my friends throughout the country, a correct statement of facts in the district coming under my own eye. The first place visited after my arrival at Madoc, was the reported rich quartz lodes or veins in Marmora. These veins are in the valley of the Moira River, and were traced by me for a distance of nearly two miles. The veins run in a straight direction nearly north and south, across the easterly portions of Lots 6, 7, 8, 9 and 10, in the 8th Concession. On a portion of these lots a number of veins are traceable, all running parallel to each other, having the same slight dip towards the west, with killas, or talc-slate linings between the quartz and the granite walls. Of these veins, two are each fully six feet in width in every place where opened, and the spaces between the outcroppings of these two veins, on Lot 6, and their outcroppings on Lot 9, cannot vary but a few feet, as the veins seem to the eye, in each case, to be about the same distance apart. The main openings of the veins are on Lot 6 and Lot 9, in each of which places the quartz is rich in visible gold. However, this visible gold in the quartz is not the only evidence of the richness of the lodes. By taking any piece of the quartz in which gold is not visible, and crushing the same finely and washing off the quartz, shows of fine gold can be obtained; and by panning and washing the earth, immediately above the veins of quartz, hundreds of shows of fine gold can be obtained, derivable evidently from the decomposition of the surface of the quartz during the lapse of ages past. In several places I removed the unbroken earth several feet in depth above the veins; took pans of the same from off the surface of the quartz and washed them out myself, and got hundreds of shows or particles of fine gold. The evidences that these are true fissure veins do not alone consist in their richness, their great length or distance traced, their width and talc-slate linings. Probably the grandest evidence of their being such is furnished by the two distinct formations on either side, and between which these veins run. On the east side of the River Moira is a ridge of reddish Gneissoid rock, rising some three hundred feet above the river, and on the west is a black granite formation. These formations, a short distance north of Lot 10, in 8th Concession, become broken, and a large tamarack swamp occupies space for some distance where quartz veins in their course should run. Beyond this swamp the river bears more to the northeast, and the rocky surface of the country becomes irregularly broken, with here and there indications of quartz veins, but none of them so well defined until reaching the northern part of the township and in the Township of Tudor, where they are again large and well defined. In all the Madoc District, I saw but *one mine* sunk on a quartz vein, that being the "Fiegle Mine;" and this as a "mine" is a curiosity, being an excavation as broad as it is long, and about as deep as broad; that is, some 25 feet each way. All the rock taken out of this excavation is being crushed at the "Caldwell Mill," on Lot 16, in 11th Concession, Marmora, or adjoining lot. The average yield of this rock, if fully paying the average yield of the quartz vein proper, would be exceedingly rich.

The unfortunate example of the Richardson Mine misguided the early operators in the district, and gave them the false idea that Dolomite or Magnesian Limestone was the gold-bearing rock of the district. Hence they concluded that all that was necessary for success was to find a hill having Dolomite rock, like the Richardson hill, and their fortune was made; and, as a consequence, hundreds of shafts have been sunk all over the country, and thousands of tons of the most worthless rock quarried out at an immense loss of labor and money. And to the great detriment of the country, these absurdities have been published as "mining" failures, instead of abortive efforts to annul the laws of nature.

Of the eight mills, large and small, erected in the district, Mr. W. H. Palmer, Field Geologist of Canada, in a late communication says: "Not one of them was adapted to the work of the country."

Mr. Palmer adds: "One company alone saw proper to sink $40,000 on a huge pile of useless and exploded machinery, on a lot of ground where, according to the laws of nature, no gold could exist; in their amalgamating process, trusting to those barefaced humbugs the 'Wykoff Rockers,' and in their mining operations quarrying the common limestone out of the hillside to grind it into gold; the result being just what every sensible man foresaw, namely, after grinding up four or five hundred tons of rock, the return of gold was *nil*, and the loss of mercury about 1000lb.; the apparatus being so defective that the quicksilver ran off with the tailings. This was a sad disappointment to the company, and a great loss to the country, but it was not the fault of the country. Within sound of the steam whistles of those monuments of ignorance and defeat, there stretches unmeasured miles of country, consisting of true auriferous Granites, Slates, Greenstones and Porphyries, traversed everywhere by two distinct systems of veins; one meridional, the other approximating to east and west; fed by 'cross courses' and 'feeding droppers,' and lined by that beautiful padding of White Killas, which miners like so well. These veins are true veins, that we know from all mining experience will hold out to interminable depths, and that even within a few fathoms of the surface will yield an average of 14 to 20 dollars a ton."

The Hastings or Madoc Gold District has passed through two phases of experience common to every country where gold has been found. First, a wild and unhealthy excitement, leading to many errors and failures; next, a reaction with excessive depression, just as absurd as the first excitement. Now, it is rapidly realizing a third phase of experience, alike common to every mining district, that of recuperation founded upon its true merits. Dolomite is at last demonstrated to be no gold-bearing rock. The The Richardson Mine is now well understood to be an exceptional deposit, where the gold in great richness has been by some convulsion of nature, in ages past, ejected out of its proper deposits and thrown into its unusual and exceptional Dolomite combination. Now quartz, the proper concomitant of gold, is regaining its old rights, and a discovery of rich lodes of it has rewarded the intelligent seeker, and furnishes the fullest assurance that the Hastings District is not only rich in exceptional cases, but in as great lodes as exist in other gold-bearing Districts. A trip of a day and a half will take one from New York to the rich quartz lodes in Marmora. An examination of them will be sufficient to convince the most skeptical of their great richness.

W. J. GATLING.

Mexico.

The Mazatlan correspondent of the San Francisco *Times* writing under date Sept. 7th, of the mineral interests of the State of Sineloa says, upon the subject of gold and silver exportation:—"The reports from the City of Mexico do not speak at all favorably of the probability of the passage of a law to permit the exportation of bullion, gold or silver. Don Antonio Paredes has been selected by the mining interest of this State to represent it in the coming session of Congress. Mr. P. is a practical miner, having been in charge of extensive mines in several parts of the State for several years, and is at present an employee at the celebrated Tayo mine, at Rosario, under the direction of Louis L. Bradbury, Esq. Mr. P. was elected to the office of Sub-Deputy (*Diputado Suplente*) in August of last year, for the Rosario District, and during the short first session of the State Congress distinguished himself by his energy in promoting popular reforms, his liberal ideas, and especially for the bill drafted and presented by him, setting forth the necessity, for the welfare of the State and Federal Government, and for the developing of mining interests especially, of immediate steps being taken by the Government to permit the exportation of silver. It is in consequence of these facts that he has been selected to fill the present responsible position. He will leave in a few days, as Congress convenes on the 15th of this month."

South Africa.

DISCOVERY OF A NEW CALIFORNIA IN SOUTH AFRICA—IMMENSE GOLD FIELDS FOUND BY A GERMAN MINERALOGIST.

Director Delmar, of the Bureau of Statistics, is in receipt of a communication from the United States Consul at Cape Town, giving further particulars relative to the new gold discoveries in South Africa. There are two auriferous districts, called respectively the Southern and Northern gold fields. The former lie 1,081 miles north of Port Elizabeth, Algoa Bay, or 1,306 miles north-northeast of Cape Town, and the latter some 250 miles further north. They are from 300 to 400 miles west of the eastern coast of Africa, the Southern gold region lying on the Tati and the Northern field near the Zambesi River. The route from Cape Town leads northeast through the centre of Cape Colony, over whose borders it passes, where the Vaal falls into the Orange river; thence north-northeast, skirting the western borders of the Boer, or Dutch republics, of Orange and Transvaal, until it strikes the northern forks of the Tati river, an affluent of the Limpopo river. The Consul says, under date of August 14, 1868, that "thousands are now flocking there in search of a new California." The British flag flies over the miner's settlements, though Pretorious, the President of Transvaal, has annexed a portion of the auriferous country by proclamation. The Cape Town *Argus* of July 23, 1868, contains full accounts of the discoveries, and indulges in the most extravagant dreams of the future of South Africa. The specimens received at Cape Town are very rich and the whole colony is in a state of the wildest excitement. It costs £30 to £40 for transportation from Cape Town to the diggings in bullock wagons at the rate of twenty miles per day, but a company is being formed which will secure regular communication at reasonable rates between Port Elizabeth and the gold fields by means of mule wagon trains, to go through in twenty to twenty-five days from Algoa Bay. The discoveries were made by Herr Carel Manch, a German mineralogist, who first penetrated the country in 1864.

New Mexico.

A correspondent thus writes of mining affairs in Pinos Altos:—"In mining there is nothing of especial interest, except that two of the three stamp mills of which Pinos Altos boasts, are running steadily. The mill of the Pinos Altos Company is undergoing repairs, putting in new stamps, etc. The placer mines have again a good supply of water, which makes the district assume its wonted lively aspect, and business is good."

COPPER.

Michigan.

The Lake Superior papers report the following additional copper products for September:

SOUTH PEWABIC MINE.	
Barrel	tons, 775 lbs.
Stamp	102 tons, 132 lbs.
Total	102 tons, 907 lbs.
HURON.	
Stamp, barrel and mass	90 tons, 186 lbs.
SHELDEN—COLUMBIAN MINE.	
Barrel	10 tons, 1157 lbs.
Stamp	10 tons, 1578 lbs.
Total	31 tons, 735 lbs.
GRAND PORTAGE MINE.	
Barrel	5 tons, 1625 lbs.
Stamp	6 tons, 1432 lbs.
Total	12 tons, 1057 lbs.
QUINCY MINE.	
Mass	9 tons, 464 lbs.
Stamp	66 tons, 885 lbs.
Total	75 tons, 1349 lbs.
FRANKLIN MINE.	
Stamp	54 tons, 521 lbs.
Barrel	27 tons, 1220 lbs.
Total	81 tons, 1741 lbs.

The Ontonagon *Lake Superior Miner* discourses on a "new style of mining." It says: "We give it the name of new style, and so it is, so far as copper mining is concerned, although the idea has long been in vogue in iron mining or stone quarrying. The miners at the National Mine propose to adopt a new style of removing the rock, which cannot be called anything more nor less than quarrying the rock. It is designed in the future to stope (if we may so call it) downwards, instead of, as heretofore, removing rock from the back of levels. The idea, for instance, is to start from the surface and remove the rock in regular steps or shelves, thus making positions for parties of men to operate. This plan does away entirely with what is known as "opening a mine." Forces will be continually engaged in quarrying out copper rock, always having the ground before them ready for removal. It is estimated that in adopting this plan, the mine guarantees a sure payment of expenses. Take, for instance, the National vein, and suppose that a portion of the rock yields but one per cent., and another portion yields two or three, it is estimated that one dollar per ton will pass the rock through the stamp mill, leaving two dollars (on one per cent. rock) per ton to pay for mining, &c.; or if the percentage of the rock increases above one per cent., almost assuring a profit. The known fact among mining men that more ground can be removed blasting downwards, insures the success of the idea. Much has been said about the cheapness with which our friends in the iron region are enabled to remove the iron ore. Of course there is a vast difference between finding your metal immediately on or near the surface and being obliged to go a thousand or more feet into the bowels of the earth, but if we can quarry rock at ten feet under the surface, why not at a thousand under as well? We might remark farther, that at the National, the intention is to sink the shaft on the north vein to the adit level. This shaft will be the grand receiver of all the rock removed, and through this shaft all will be brought to the surface. We have no doubt, ourselves, but that the plan of Captain Chynoweth will prove available, and not only available, but beneficial in the way of reducing actual mining expenses."....We have a few items of news from Ontonagon District. A correspondent writes: "That reports are current thereabouts of a reduction of force soon to be made at the Knowlton and Evergreen Bluff mines. The Minnesota Company has already reduced its force to some extent. The National Company will increase its present force soon."....The Evergreen Bluff range of mines are producing about the same. Assurances are given that the Aztec will ship at least twenty tons of copper by close of navigation. The mines about Rockland show fairly, producing well for forces employed.....From Portage Lake District we have the news items to the 15th inst., through the *Mining Gazette* of that date. It says. "At Concord the workings are progressing as rapidly as the limited force employed will permit. The show of copper in the shaft sinking to the thirty is very good, as it also is at the other points now working.. Reports from the Huron continue more favorable. The fifty drift south is almost stopped by the barrel and course stamp copper showing. This is bad for the miner's wages but good for the company's prospect of paying expenses and a trifle over. . . . At the Quincy, in the 130, driving south towards No. 4, there is a very rich show of barrel and stamp work, on the foot side of the lode, which is divided here by an immense "horse" of trap. This portion of the lode is over twenty feet in width by over one hundred and fifty long. The south end of the drift is in to within forty feet of No. 4 shaft. This block of ground will produce well....On Friday last another car got away on the Pewabic incline, and went crashing through the stamp mill. This time the cause of the runaway was the breaking of the rope....The Shelden-Columbian product for September was the result of the labor of thirty miners, and one-fourth duty of the mill for twenty days. The wretched condition of the weather has permitted of but little work in the explorations. Several pieces of coarse copper, one weighing about forty pounds, have been found, and more will undoubtedly follow as the work progresses. In most of the lower pits the vein is small and capped over, but the feeders are very strong and favorable. Mr. Forster exhibits pieces of barrel copper which was taken out of the bottom of the mass pit, where a party of men are preparing to sink a shaft. From the appearance of this piece, the promise of more heavy copper is good, and this was broken from a large piece still in the ground....The Hoar Brothers have formally returned the Albany and Boston mine back to the agent of the company. After persistent efforts for a whole year they found there was no profit in working longer. Notwithstanding they exercised the most rigid economy in their operations, there was no prospect of profit at the present rates for metal, and rather than lose money they surrendered their contract.

MARKET REVIEW.

FRIDAY EVENING, OCT. 30, 1868.

Gold and Silver Stocks.—The prices of Mining Stocks this week shows a pretty general decline, with some activity at the Board. Consolidated Gregory is one of the firmest stocks, being now held at the advanced price of $5 10. Smith and Parmelee and Colorado Stocks is no less firm at $6 00@$6 10. Nevada Stocks continue unchanged. Among the most recent sales at the Stock Board, we notice transactions in Rocky Mountains at 15c.; Smith and Parmelee at $6 00@$6 10, and Gregory at $5 00. The following are the quotations of to-day:

	Bid.	Asked.		Bid.	Asked.
Alameda Silver	.. 25	40	Kipp & Buell Gold	.. ..	10
American Flag	.. ..	20	La Crosse Gold	15	20
Bates & Baxter Gold	.. ..	50	Liberty Gold	.. 1	3
Benton Gold	25	..	Manhattan Silver	100 00	.. ..
Bobtail Gold	.. ..	1 25	Midas Silver	25	75
Black Hawk Gold	4 00	....	Montana Gold	40	55
Consolidated Gregory	4 90	5 10	New York	1 00	1 25
Edgehill Mining	....	3 00	Nye Gold	.. ..	4
Gold Hill	.. ..	1 00	Owyhee Mining	17 00	....
Gunnell Gold	.. ..	60	People's G. & S. of Cal	.. ..	20
Grass Valley	40	48	Quartz Hill	95	96
Hamilton G. & S. B.	.. ..	85	Rocky Mountain Gold	11	.. 13
Holman	.. 3	5	Smith & Parmlee Gold	6 00	6 05
Hope Gold	.. ..	10	Texas Gold	.. ..	10
Twin River Silver	.. ..	10 00	Corydon	10	25
Gunnell Union	.. ..	30	Symonds Fork Gold	.. 30	....

Copper Stocks.—Prices continue with but little change, the principal Stocks being quoted: Davidson 70c.; Flint Steel River, $1.75.

The following will show the prices of Copper stocks bid in Boston this day, (Oct. 30.)

Copper Falls	16	Quincy	..
Franklin	13	Cary Improvement	8¼
Hancock	4	Water Power	15¾
Minnesota	2	Bos. Hart. & Erie R. R.	27¼
Calumet	50	Isle Royal	..

Petroleum Stocks.—Sales of United States were made at the Board yesterday at $2 10—quite a decline since our last quotation. Save for National, our list of quotations shows a marked decline in prices. Prices are quoted:

	Bid.	Asked.		Bid.	Asked.
Bennehoff Run	.. 42	50	Rynd Farm	..	22
Brevoort	..	....	United Pet. Farms	.. 10	30
Buchanan Farm	45	53	Union	8 50	....
Central	45	60	United States	2 10	2 20
Clinton Oil	1 10	....	Sherman & Barnsdale	....	1 25
National	3 25	3 50	Second National	.. ..	.. ..
N. Y. and Alleghany	.. ..	2 00	Bliven	.. ..	.. ..
Pithole Creek	40	90	Rathbone	.. ..	.. ..
Home Petroleum	2 00	3 00			

Miscellaneous Stocks.—Wallkill Lead is quoted at 10@12; Western Union Tel., 86¼; Quicksilver Mining Co., 23¼; Maripesa Preferred, 22; Ada's Express, 49¼@49½; A. & T. H., 41; Wells-Fargo Express, 29; Merchants Union Express, 21@21½; N. Y. Central R. R., 125¼@126; Erie, 41; Erie R. R. Pref., 66; Hudson, R. R., 187; Reading, 98½; Mich. S. & N. L., 86¼@86½; Illinois Central, 145; Clev. & Pitts., 87¼@87½; C. & N. W., 91½; C. & N. W. R. R. Pref., 92; Boston H. & E., 2½; Cleveland & Toledo, 102½; Lake Shore R. R., 100½; Chi. & R. I., 105¼@106; Milwaukee & St. Paul, 100½; Milwaukee & St. Paul Pref., 100¼@100½; P. Ft. W. & C., 113; Ohio & M. R. R., 31@31½; H. & St. Joseph Railroad Preferred, 89.

Government Stocks.—The bond market shows more firmness. There is a steady demand from the large dealers, in anticipation apparently of the wants of foreign bankers next month. A difference of ¼@½ per cent. on buyers' options of ten to fifteen days. Following are the quotations:

U. S. 6s, 1881, coupon	115 @115¼	U S 5-20s, '65, new coup.	110½ 110¾
U. S. 5-20s, 1862, coupon	113¼ 113¾	U. S. 5-20s, 1867, coupon	110¾ 110¾
U. S. 5-20s, 1864, coupon	111¼ 111¾	U. S. 5-20s, 1868, coupon	111 111¼
U. S. 5-20s, 1865, coupon	111¼ 111¾	U. S. 10-40s, ex. coupon	105¾ 106

Foreign Exchange.—Foreign Exchange is fairly active, but the supply of bills is equal to the want of buyers, and rates are steady at the following quotations:

Lon. (pr. bks), 60 dys	109¼@ 109¾	Swiss	5.16¼ 5.15
Lon. (pr. bks), sight	110¼ 110¾	Hamburg	36 36¼
London, prime com	....	Amsterdam (bankers')	41 41¼
Paris (bankers'), long	5.15 5.18¾	Frankfort (bankers')	41 41¼
Paris (bankers'), short	5.12¾ 5.11¼	Bremen (bankers')	79¾ 79¾
Antwerp	5 16¼ 5.15	Berlin (bankers')	71¾ 71¾

Gold.—Gold is steady, the price ranging from 134¼@134¾, the tendency being slightly downward. The Assistant Treasurer announces his readiness to commence the payment of interest on Saturday, to moerow; this anticipation of payment by one day has no perceptible effect on either the premium or the lending rates. Loans have ranged from "flat" to 1-16 per cent. per day "for borrowing."

The bids for gold at the Sub-Treasury this morning, aggregated $900,000, the awards being as follows:

	Amount.	Price.
Henry Clews & Co	$300,000	$134 51
A. Rodewald	300,000	134 38¼
Cowing, Johnston & Co	300,000	134 35
Total	$900,000	

The whole amount was awarded to Henry Clews & Co. at $134 51;

The money market shows little change from the severe stringency. Some of the banks report fewer applications, and parties engaged in bull operations are doubtless using their influence to make an appearance of relief, so that in some quarters the market looks easier. We can report no change, 7 per cent. in gold and ½ per cent. per day.

The shipments of treasure from San Francisco from Oct. 1 to April 14 (exclusive of government account) were as follows:

October 3—Per Great Republic:		
To China	$959,123 38	
To Japan	133,750 00	—1,092,873 38
October 6—Per Colorado:		
To New York	$227,904 65	
To England	277,310 75	
To Panama	15,000 00	
		520,214 50
October 7—Per Montana to Honolulu		8,880 00
Total since October 1, 1868		$1,021,968 18
Previously this year		28,144,408 34
Total since January 1, 1868		$29,766,276 52
Corresponding period 1867		32,528,929 24
Decrease this year		$2,762,552 72

The following will show the exports of specie from the port of New York for the week ending October 24, 1868.

Total for the week	$29,724
Previously reported	56,840,470
Total since January 1, 1868	$66,870 194

Same time 1867	$43,257,368	Same time 1864	$37,355,155
Same time 1866	54,691,833	Same time 1863	38,457,833
Same time 1865	25,184,118	Same time 1862	49,550,958

Petroleum.—Crude, in bulk, is received sparingly, and strong prices are demanded. We quote at 17c., with a small sale, 200 bbls., at this price. Refined, standard white is dull and not so firmly held, closing at 30¼c. For Philadelphia delivery there is a very moderate inquiry at easier prices. The sales are 1,000 bbls. standard white, for balance of the month, 29½@30½c.

Receipts for the week ending Oct. 27	pkgs.	9,975
Exports for the week ending Oct. 27	galls.	1,870,130
Exports from Jan. 1	galls.	46,189,996
Exports same time last year	galls.	25,527,062

The following is the quantity exported from other ports, Jan. 1 to Oct. 24.

		1868.	1967.
From Boston	galls.	2,200,610	1,710,410
Philadelphia		31,075,836	23,446,405
Baltimore		2,417,215	1,303,675
Portland		571,370	800
Total		36,265,031	26,451,291
Total exports from the United States		80,809,218	52,276,729
Same time in 1866			52,165,365
Same time in 1865			19,321,599

Copper is very quiet, with sales not exceeding 300,000 lbs. at 23c. for Detroit and 22½ for Portage Lake and Baltimore.

The English maket is dull, at £67 10 for Chili Bars.

Zinc.—French Zinc, 11½@12c.
American Zinc, 9@9½c
Sheet Zinc, Metallic, 12½c—duty, 2½ gold.

Tin.—4,000 slabs, Straits, were sold 25c., gold—it is now quoted 25½. Banca, 27½c., nominal. English, 35c.

The London market advanced to 108s. for English, and 101s. for Straits.

Spelter.—Sales of 150 tons of Stratburg and Silesian at $6.30@6.50, gold. The stock is barely 100 tons, and now held at $6.62, gold.

Lead is in steady demand at $6.45@$6.50, gold, for ordinary foreign.

Plaster Paris.—We note sales of 489 tons White Nova Scotia Lump, at $4.47, cash.

Regulus Antimony—Has advanced, with sales of 8 casks at 15@14½ g'd.

THE IRON TRADE.

NEW YORK, October 28, 1868.

There has been no movement in American iron since our last week's report No. 1 iron remains very quiet, and with extra scarcity remains very firm in prices. We have no sales of importance to note. Forge irons remain quiet with but little inquiry. Sales, 500 tons of Extra American—January and February delivery, $39; 100 tons No. 1 on private terms; 50 tons Glendon Forge, at $36.50

The stock of Scotch Iron is considerably reduced, and with moderate importations holders' views are firmer, and better prices are anticipated.

Old Rails remain quiet and with but little inquiry. Prices are weaker.

Scrap iron is quiet. Sales have been made ex. Ship at $42@$43.

Bar is quiet but firm at our quotations. American Refined is held at $92.50 currency, from manufacturers' hands. Common sheet is in small supply.

BOSTON, October 28, 1868.

In Scotch Pig there is no change. The sales have been at $42@$45 per ton for Gartsherrie and other brands. An import of 450 tons Glengarnock sold on private terms. American Pig is firm at $40@$45 per ton, as to quality, with sales in lots as wanted. In Bar Iron there is no change, with a moderate demand. Russian Sheet Iron is firm at 13@14c. per lb., gold

Imports of Pig Iron from January 1 to October 24, 1868:

	1868.	1867.
From Great Britain, tons	19,814	29,655
Coastwise Ports	10,465	8,632

PHILADELPHIA, October 27, 1868.

In Pig Metal there is rather more doing. Sales of No. 1 Anthracite at $42@$43, and No. 2 at $38@$40. Scotch Pig is quiet at $43 per ton, and Forge at $35@$35.50 per ton. Manufacturers Iron commands $85@$87.50 for Bars. Blooms are quiet.

Lehigh Valley Iron Trade.

Pig Iron transported by the Lehigh Valley Railroad Co. for the week ending Oct. 24, 1868:

From	Tons.	Total.
Carbon Iron do	80	7,040
Lehigh Valley Iron Co	240	6,890
Thomas Iron do	1260	25,005
Lehigh Crane Iron do	695	22,985
Allentown Iron do	590	19,270
Robert Iron do	155	8,295
Glendon Iron do	210	18,200
Other Shippers	500	17,207
Total	3,730	124,842

Lake Superior Iron Trade.

Receipts of Ore and Pig Iron at Marquette, up to and including Saturday, Oct. 24, 1868, by the Marquette and Ontonagon Railroad.

IRON ORE.

	To October 17. Prev'sly rep'ted.	For past week.	Total.	To October 24. Prev'ly rep'ted.	For past week.	Total.
Lake Superior Iron Co	85,448	2,356	87,804	87,804	2,145	89,949
Cleveland Iron M. Co	33,488	737	34,215	34,215	1,027	35,245
Marquette Iron Co	8,124	32	8,156	8,156	142	8,298
Washington Iron Co	25,183	884	26,067	26,067	1,558	27,625
New England Iron Co	7,707	346	8,053	8,053	..	8,053
Edwards Mine	14,662	868	15,530	15,530	737	16,267
Pitts. & Lake A. Iron Co	21,717	....	21,717	21,717	..	21,717
Champion Mine	687	675	1,362	1,362	779	2,140
Ore to Local Furnaces	21,755	21,755	23,143	23,243	1,831	24,974
Total Iron Ore, tons	218.771	7,276	226,047	226,047	8,219	234,266

PIG IRON.

Morgan Iron Co	6,718	320	7,068	7,078	596	7,644
Greenwood Iron Co	668	118	786	786	217	1,008
Bancroft Iron Co	3,266	73	3,339	3,339	85	3,424
Collins Iron Co	3,970	133	4,103	4,103	16	4,119
Michigan Iron Co	3,879	..	3,879	3,879	140	4,019
Total Pig Iron, tons	18,501	674	19,175	19,175	1,054	20,229
T'l ore and pig iron, t'ns	237,272	7,950	245,222	245,222	9,223	254,495

Imports of Foreign Iron and Steel at New York.

For the week ending Oct. 30.

	Quantity.	Value.
Railroad Iron, bars	4,958	$133,222
Hoop, tons	36	1,637
Sheet, tons	48	3,344
Pig, tons	2,726	39,903
Other Iron, tons	4,289	93,021
Chains and Anchors, packages	61	1,954
Tubes, packages	1,918	3,742
Nails, packages	90	1,041
Steel, packages	2,585	37,829
Machinery	79	5,859
Pipes	....	2,350
Anvils	30	295
Wire	2	240
Total value		$231,437

Market Prices.

NEW YORK, Oct. 28, 1868

DUTY.—Bars, 1 to 1¼c. per lb.; railroad, 60c. per 100 lbs.; boiler and plate: 1¼c. per lb.; sheet, band, hoop and scroll, 1½ to 1¾c. per lb.; pig, $9 per ton, polished sheet, 3c. per lb. Payable in gold.

Am. pig, fy. No 1, best	$41 00@43 00		
" " 2x frdy,	36 00	39 00	
" Grey Forge	34 00	36 50	
White and Mottled	....	31 00	
Pure white for Cal. mar.	31 00	— —	
Scotch Pig, No. 1, best bd	41 50	43 00	
" " " outside,	41 00	— —	
Wt. No. 1 Scrap f'm yd.	....	47 50	
Ex ship	45 00	....	
Bar, Ref., En. & Am.	90 00	92 50	
Bar, Sw's, as. sizes, gold	87 50	80 00	
Old Rails	47 00	48 00	
R. R. Iron, For., fm Stock gold	51 50	52 50	
R. R. Iron For., to imp.	50 00	— —	
" " Amer. at wks. currency	77 00	— —	
R. R. Iron, Am., deliv'd	80 00	— —	
Stl rails of any pattern at works, currency			
Solid Steel rls. For., gd.	110 —	— —	
Street Rails at works	80 00	— —	
Light rls. for mines &c. at works	$80 00@	— —	
Do. delivered here	83 50	— —	

STORE PRICES.

Bar, Swedes, ord'y sizes	— —	155 00
Bar, Eng. and Am., rf'd.	— —	100 00
Bar, Eng. & Am., com.	— —	90 00
Scroll	130 00	175 00
Ovals and half round	125 00	155 00
Band	130 00	— —
Horse Shoe	130 00	— —
Rods, ⅜@3-16 inch	105 00	165 00
Hoop	135 00	190 00
Nail Rod, per lb	9½	10½
Sheet, Rus. as'd. Nos. (gold)	12½	13½
Sheet, s'gle. D & T. com	5½	6½
Rails, Eng., gold, ton	51 00	52 00
Rails, American	80 00	81 00
STEEL.		
English, cast 2d & 1st qual.	18 @23	
Eng. Spring 2d & 1st qual	10	12½
Eng. Blister 2d & 1st qual.	11½	20
English Machinery	13½	16
Eng German 2d & 3d qual.	14	16
Am. Blister. "Black Diam'd,"	10½	16
American, Cast, Tool "	19	—
American, Spring "	10	13
American Machinery "	—	13
American German "	10	13

PITTSBURGH, October 24, 1868.

The market during the week, says the *Commercial*, has been steady, with a fair demand for the various descriptions. Prices, however, remain about the same. The stock on hand is not large. Since the suspension of navigation a large amount of receipts have been cut off. Buyers say the market is gradually becoming weaker, and that prices must come down: as the seller will have his say in regard to that matter, it will take time to decide who is right. The operations were:

	Last Week.	This Week.
Anthracite	550 tons.	270 tons.
Bituminous	1235 tons.	1280 tons.
Charcoal	246 tons.	680 tons.
Coke	450 tons.	.... tons.

Being a falling off in sales of 351 tons.

BITUMINOUS COAL SMELTED FROM LAKE SUPERIOR ORES.

100 tons Gray Western Neutral	$39 50	4 mos
300 tons Cold Short	37 00	5 mos
150 tons Gray Forge Red Short, to arrive	39 50	4 mos
300 tons Gray Forge Red Short, to arrive	40 00	4 mos
250 tons Gray Forge Red Short, to arrive	40 00	4 mos
50 tons Gray Forge Red Short, to arrive	40 00	4 mos
50 tons Gray Forge, at Furnace	38 00	60 dys
40 tons White, to arrive	38 00	4 mos

ANTHRACITE.

40 tons No. 2 Foundry	41 00	4 mos
20 tons Red Short	40 00	cash
10 tons No. 1 Foundry	41 00	cash
10 tons No. 1 Foundry	42 00	4 mos
10 tons No. 2 Foundry	40 00	4 mos
50 tons No. 1 Foundry	40 00	cash
50 tons Red Short No. 3	39 00	4 mos
50 tons B No. 2	40 00	4 mos
20 tons Mottled	priv. terms.	
10 tons Gray	priv. terms.	

CHARCOAL.

50 tons Tennessee Forge Cold Blast	49 00	4 mos
30 tons Lake Superior Forge Hot Blast	48 50	4 mos
50 tons Juniata Hot Blast Foundry	47 00	4 mos
550 tons Missouri Forge Iron	priv. terms.	

CINCINNATI, October 26, 1868.

PIG.—Receipts have been very light for a few weeks past, and demand being in excess of the supply, prices have advanced $1@$2 per ton for Foundry and Mill Hanging Rock brands, with a better feeling and some improvement in all descriptions.

	Per ton.	Days
Hanging Rock H. B. Mill	$37	38—90
Hanging Rock H. B. Fou	41	42—90
Hanging Rock Cold Blast	53	..—90
Hanging Rock Car Wheel	55	60—90
Tennessee Cold Blast	43	45—90
Missouri	47	50—90
Jackson (stone coal) Fou	38	39—90
Blooms	100	105—90

MANUFACTURED.—Trade is better, but no change in prices.

	B.	C. C.		B.	C. C.
Flat Bar	4 4½	5½ 5¾	Half Oval and ½ Round	4½ 5½	6 6¼
Horseshoe Iron	5½ 6	6½ 7¼	Angle Iron	5½ 6½	6¾ 7½
Heavy Band	4¼ 5	6 6½	T & Hollow Rail Iron	6 ..	7½ ..
Round and Square	4 8	5½ 9½	Saw-mill Track	.. 6 ..	7½ ..
Saddle tree	5½ 6	6½ 7¼	Sheet Iron, 10 to 17	.. 5½ ..	8½ ..
Hoop and Light Band	5½ 9¾	6½ 11	Sheet Iron, 27	.. 6¾ ..	9½ ..
Oval Iron	4¼ 5½	5¾ 6½	Boiler-Plate, 3-16, 5-16	.. ..	7 ..

Iron.	Per ton.		Iron.	Per ton.	
Bars, Welsh, in L'n	£0 10 0	£6 12 6	Pig, No 1, in Clyde	2 14 3	2 18 3
Bars, W., to arrive	6 10 0	. .. .	Pig, f o b in Tyne or Tees	2 9 6	. .. .
Nail Rods	6 15 0	7 0 0	Pig, Nos 3, 4, f o b in Tyne or Tees	2 6 6	2 7 0
Do., Staff's'e, in L'n	7 10 0	8 10 0	Railway Chairs	5 10 0	5 15 0
Bars, in London	7 10 0	9 10 0	Railway Spikes	11 0 0	12 0 0
Hoops, in London	8 2 6	9 15 0	Indian Charcoal Pigs, in London	7 0 0	7 10 0
Sheets, single	9 2 6	11 0 0	Steel.		
Pig, No 1, in Wales	3 15 0	4 5 0	Swede, in k's (rol'd)	14 5 0	.. .. .
Ref'd metal, in W's	4 0 0	5 0 0	Swede, in k's ham'd	15 0 0	15 10 0
Bars, com'n, in W's	6 0 0	. . .	Swede, in fagots	16 0 0	.. .. .
Bars, Merchant, Tyne, or Tees	6 10 0	. .. .	English spring	17 0 0	23 0 0
Bars, railway, in W's	6 0 0	6 0 0			
Bars, Swede, in L'n	9 17 6	10 0 0			
To arrive	10 0 0	10 0 0			

MILWAUKEE, Wis., October 26, 1868.

PIG IRON.

No quotable change in prices.

Buffalo Union, A 1	$49 00	Lake Superior No 3 (charcoal)	43 00
Buffalo Union, B 1	46 00	Iron Ridge, No 1 (Sweed's)	43 00
Lake Superior No 1 (charcoal)	43 00	Scotch	48 00@53 00
Lake Superior No 2 (charcoal)	42 00		

MANUFACTURED IRON.

Flat Bar	$0 3½@0 4½		Round and Square	3¾	7½
Horse Shoe	5	5½	Oval	4½	5
Heavy Band	4½	5½	American Spring Steel	11½	13½
Hoop and Light Band	5	10	Plough Steel	11½	13½
Eagle Sheet Iron	6¾	9½	Am. Tool Steel (best)	..	17½
Boiler Sheet Iron	5¾	6¾			

LONDON, Eng., Oct. 9, 1868.

IRON.—The Ironmasters are fairly supplied with work for some little time to come, and, says the Mining *Journal*, there seems a fair prospect of prices being well maintained. In some districts of Staffordshire the Ironmasters have not yet recovered from the effects of the strike and the hot weather, and, therefore, have still back orders to execute until these are worked off they will, probably, be indifferent about making fresh engagements, unless at their own prices. In Swedes the transactions have been on a more limited scale; former rates, however have been upheld. Scotch Pigs were in tolerably good demand at the commencement of the week, although the prices were slightly easier, notwithstanding the development of a better feeling, since which the market has remained flat, and prices quoted at 58s., with only slight variation.

STEEL.—Sweedish is not much asked for, and prices are unaltered.

THE COAL TRADE.

NEW YORK, Oct. 30, 1868.

The coal market is at the present time in an unsettled state, and may continue so for some time to come. The markets are bare as usual, and trade is quite brisk, the demand exceeding the supply. As we anticipated, prices have gone up, but it may be safely predicted that coal will not be as high in January as at the present time.

At the Scranton sale of the 28th inst., 50,000 tons were sold, and the following are the prices, compared with those of last month and the present time last year:

Tons.	Oct. 28.	Sept. 30.	Oct. 28, 1867.
11,000 lump	$5 67@5 90	$5 15 @5 25	$3 75
13,000 steamboat	5 75 5 95	5 37½ 5 62½	3 92
8,000 grate	6 32½ 6 47½	6 00 6 15	4 25
4,000 egg	7 57½ 7 62½	6 52½ 6 00	4 65
7,000 stove	9 05 9 20	6 85 6 90	5 28
7,000 chestnut	6 10 6 40	5 52½ 5 77½	3 86

The price was much higher than was anticipated. The amount offered, however, was small, which partly accounted for the high prices obtained.

The coal market of Philadelphia is unsettled, from the fact that the bulk of the shippers are well sold off, on orders taken last month and previously. There is but little coal for sale, consequently extreme prices are asked, more with a view of preventing purchases, than of selling. Where eastern parties are in short supply they accede to the demand, and thus prices are kept up. The New York market is most clamorous for coal, and boats being unusually scarce for this season, liberal shipments are prevented.

The following will show the exports of coal from the port of New York for the week ending October 27, and for the season to that date, also the amount exported last year for the same period:

Exports for the week	tons	306
Do. from January 1	do	53,038
Do. same time last year	do	57,580

BOSTON, October 28, 1868.

The market for Cannel Coal remains the same as previously noted. Sales of large and small lots at $17@$20 per ton. In Sidney and Picton there have been further sales at $8.25@$8.50 per ton by the cargo. Cumberland ranges from $8.00@$8.50; and for Pennsylvania and Westmoreland gas, prices are nominal. Anthracite has been in good retail demand at $10@$11, and cargo prices are nominally $9.00@$9.50 per ton.

PHILADELPHIA, October 27, 1868.

There is rather more doing, and prices are well maintained.

The following table exhibits the amount of Coal that was passed over the various routes of transportation from the Pennsylvania Coal districts for the week ending Oct. 24, 1868, and for the season to that date. A comparison is also made with the amount transported the corresponding week in 1867 showing the increase or decrease, as the case may be:

	1867.		1868.		INC. OR DEC.	
COMPANIES.	WEEK.	TOTAL.	WEEK.	TOTAL.	WEEK.	YEAR.
Phil. & Read. R. R.	79,186	2,811,672	94,794	2,493,247	↑ 15,608	↓ 681,375
Schuylkill Canal	33,923	865,453	36,748	982,498	↑ 2,825	↑ 117,065
Lehigh Valley R. R	41,224	1,705,006	56,762	1,954,637	↑ 15,538	↑ 249,631
Lehigh & Sus. R. R	8,001	422,405	17,802	399,132	↑ 9,801	↓ 23,273
Lehigh Canal	34,672	843,368	37,359	797,499	↑ 2,686	↓ 45,869
Scranton North	14,583	394,502	17,913	493,238	↑ 3,331	↑ 98,736
Scranton South	20,499	1,034,665	19,480	881,273	↓ 1,019	↓ 152,392
Penn. Coal Co. rail	91,874	687,516	19,771	756,708	↓ 103	↑ 69,192
Penn. Coal Co. canal	588	19,275	710	25,688	↑ 122	↑ 6,413
Del. & Hud'n Canal	37,638	1,151,428	50,652	1,354,161	↑ 13,014	↑ 203,533
Shamokin	10,971	395,526	10,161	406,021	↓ 800	↑ 10,495
Trevorton	1,373	37,702	1,598	28,274	↑ 224	↓ 94,217
Short Mountain	3,664	66,846	4,049	100,492	↑ 385	↑ 33,650
Lykens Valley Co.	2,257	58,669	2,282	72,961	↑ 24	↑ 14,292
Hunt'g'n & B'd T'p	....	195,429	6,895	220,801	....	↑ 25,372
Wyoming South	12,800	302,841	11,765	275,106	↓ 1,035	↓ 27,735
Wyoming North	....	35,191	4,370	69,556	....	↑ 34,358
Williamstown Col.	4,868	96,143	4,585	158,840	↑ 167	↑ 47,697
Total	325,611	11,123,614	397,646	11,765,932		
			325,611	11,123,614		
Increase			↑ 72,035	↑ 342,318		

Schuylkill Coal Trade.

BY RAILROAD AND CANAL, FOR WEEK ENDING, OCT. 30, 1868.

	RAILROAD.	CANAL.
St. Clair	32,779	....
Port Carbon	8,789	13,326
Pottsville	3,077	1,620
Schuylkill Haven	30,769	18,912
Auburn	4,582	....
Port Clinton	14,035	1,579
Company's use	2,752	....
Total for week	96,783	35,437
Previously this year	2,493,247	982,498
Total	2,590,030	1,017,935
Same time last year	2,811,672	865,433
Increase	↓ 778,358	↑ 152,502

Lehigh & Susquehanna Railroad.

Report of Coal shipped for the week ending October 24, 1868.

WHERE FROM.	WEEK. Tons. Cwt.	TOTAL. Tons. Cwt.
Mauch Chunck Region	2,012 07	24,589 10
Hazleton "	14,056 02	275,742 19
Upper Lehigh "	3,683 16	109,605 02
Wyoming "	17,124 09	378,782 19
Grand Total	35,826 13	788,720 10
Corresponding week last year	8,001 02	422,405 11
Increase	27,825 11	366,314 19
Forwarded South from Mauch Chunk by Rail	17,373 09	341,624 01
Delivered on line of L. & S. R. R. above Mauch Chunk	429 00	57,508 04
Delivered at Coal Port for shipment by Canal	18,024 04	389,588 05
Total	35,826 13	789,720 10

Lehigh Canal Coal Trade.

Shipped for the week ending October 24, 1868.

WHERE FROM.	WEEK. Tons. Cwt.	TOTAL. Tons. Cwt.
MAUCH CHUNK.		
Lehigh Coal & N. Co.	....	....
Summit Mines	12,919 02	293,136 08
Room Run Mines	194 09	14,684 00
Total Mauch Chunk	13,113 11	307,820 08
BEAVER MEADOW REGION.		
W. T. Carter & Co	597 17	16,075 08
Spring Mountain Coal Co.	261 08	2,779 06
Thomas Hull & Co	1,119 15	13,218 03
Honey Brook Coal Co.	2,364 14	43,218 03
German Pa. Coal Co.	800 16	12,231 05
Other Shippers	187 04	1,884 14
Total Beaver Meadow Region	5,313 15	89,942 18
MAHANOY REGION.		
McNeal Coal & Iron Co.	....	....
Knickerbocker Anthracite Coal Co.	97 10	192 04
North Mahanoy Mines	....	65 15
Delano Mines	....	....
Primrose Mines	....	....
Walter Brothers & Co.	....	....
Mount Etna Coal Co.	....	854 05
Trenton Coal Co.	....	....
Thomas Coal Co.	....	94 06
Williams & Herring	....	....
New Boston Coal Co.	193 04	1,024 12
Copley Coal Co.	....	100 00
Other Shippers	....	248 03
Total Mahanoy Region	290 14	2,579 05
HAZLETON REGION.		
A. Pardee & Co	3,318 09	56,217 02
G. B. Markle & Co.	877 06	28,576 03
Wm. S. Halsey & Co.	68 17	1,340 01
B. Mountain Coal Co	958 19	17,054 13
Sharpe, Weiss & Co	949 05	29,835 03
Coxe Brothers & Co.	291 17	8,203 01
Ebervale Coal Co.	1,238 05	22,404 15
Stout Coal Co.	742 14	10,512 16
Harleigh Coal Co.	1,063 13	19,607 17
Asburton Coal Co.	....	64 06
Highland Coal Co.	347 15	13,942 06
Jeddo Coal Co.	....	....
Pardee Brother & Co	....	....
Mount Hall	....	....
Woodside	444 16	7,036 16
Latimer	193 00	6,171 19
Sugarloaf	....	1,330 08
Other Shippers	348 17	5,370 07
Total Hazleton Region	10,849 13	227,667 13
UPPERR LEHIGH REGION.		
Upper Lehigh Coal Co.	802 16	15,324 16
WYOMING REGION.		
Newport Coal Co.	....	....
Valley Coal Co	....	....
Warrior Run Manufacturing Co.	....	....
Parrish. & Thomas	761 01	9,203 07
New Jersey Coal Co.	544 11	5,924 08
Preston Colliery	....	....
L. & Susquehanna Coal Co.	....	....
Germania Coal Co.	230 01	6,025 10
Franklin Coal Co.	....	....
Audnr'd Im't Coal Co.	....	....
W. Barre Coal & Iron Co	3,803 06	103,812 14
Union Coal Co	....	....
H. B. Hillman & Son	....	....
Wyng C'l & Trns Co.	....	....
Mineral Spring Coal Co.	....	....
Henry Colliery	222 08	2,803 12
Everhart Coal Co.	....	....
East Boston Coal Co.	255 00	1,524 12
John Horton	....	....
Enterprise	88 07	1,489 02
Shawnee	627 10	14,679 10
Harvey Brothers	....	188 02
Consumers Coal Co.	....	....
Delaware & Hudson Canal Co.	....	242 04
Chauncy	194 08	4,812 08
Morgan Shaft	....	87 18
Berkley, Price & Co	....	493 16
Other Shippers	267 19	2,882 02
Total Wyoming Region	6,994 11	154,164 05
Mauch Chunk Region	131,13 11	307,820 08
Beaver Meadow Region	5,313 15	89,942 18
Mahanoy Region	290 14	2,579 05
Hazleton Region	10,843 13	227,667 12
Upper Lehigh Region	802 16	15,324 17
Wyoming Region	6,994 11	154,164 05
Total.	37,359 00	797,499 06
Corresponding week last year	84,672 15	843,368 07
Increase	2,686 05	45,869 01
Decrease	....	....

Report of Coal Transported over Lehigh Valley Railroad

For the week ending October 23, 1868, and previously this season:

WHERE SHIPPED FROM.	WEEK. Tons. Cwt.	PREVIOUSLY Tons. Cwt.	TOTAL. Tons. Cwt.
Total Mahanoy	18,230 13	380,328 03	398,558 16
Total Hazleton	25,795 01	876,154 07	901,919 08
Total U. Lehigh	243 99	35,769 04	36,013 13
Total B. Meadow	11,789 08	362,969 08	374,758 16
Total Wyoming	5,704 06	242,653 18	248,358 04
Grand total	56,762 17	1,897,875 00	1,954,637 17
Same time last year	41,224 00	1,663,782 02	1,705,006 02
Increase	15,538 17	234,092 18	249,631 15
Decrease	....	....	....
Forwarded east from M. Chunk by r'l	56,762 18	1,897,875 00	1,954,367 17
Delivered at M. C'k and on line of r'd above that point	2,521 14	48,594 15	51,116 09
At Penn Haven for shipm't by canal.	10,659 16	1,47384 12	138,044 08
At M. Chunk for shipment by canal.	5,201 12	86,486 04	91,687 16
Total by rail and canal	75,145 19	2,180,290 11	2,255,436 10
Same time last year	46,130 15	1,763,414 04	1,809,544 19
Increase	29,015 04	416,876 07	445,891 11
Decrease	....	....	....

Prices of Coal by the Cargo.

[CORRECTED WEEKLY.]

At New York, Oct. 30, 1868.

Schuylkill R. A., choice	$8 00	$....	Schuylkill Chestnut	$6 50	....
" Ordinary	7 75	....	Lehigh W.A.L'p old Co.	7 75	....
" W. A. Lump	6 50	....	" Broken	7 25	....
" Steamboat	6 75	....	" Egg	7 25	....
" Broken	7 25	....	" Stove	7 50	....
" Egg	7 75	....	" Chestnut	7 50	....
" Stove	7 75	....	Shamokin	7 50	....

SPECIAL COALS.—DEALERS' QUOTATIONS.

Diam'd Vein R.A., Sch'kill	$ 00	....	Old Co.'s W. A. Lehigh	7 50	6 50
Locust Dale W. A., "	7 75	....	Mt. Pleasant	7 25	....
Honey Brook " Lehigh	7 75	7 50	Buck Mountain	7 50	7 75
Harleigh " "	7 25	7 50	Buck Ridge W.A., Sh'kin	7 50	....
Spring M'n " "	6 50	7 50	H. Heils, E. F'kiln, Lorb.	8 00	....
Sugar Creek " "	....	7 50	New England Red Ash	7 00	7 50
Sugar Loaf " "	....	....	Wyoming	7 00	....

Dealers in these Coals may be found in our advertising columns.

At Philadelphia, Oct. 29, 1868.

Lehigh L'p and St'ub't	7 10	....	Henry Clay, Egg & St.	....	7 50
" Broken and Egg	7 00	7 60	Locust Mount Lump	5 25	5 50
" Stove	8 35	....	" Steamboat	5 50	5 60
" Chestnut	6 60	....	" Broken	....	6 25
Schuylkill R. A	....	....	" Egg	6 75	7 00
" Chestnut	5 00	5 25	" Stove	....	7 40
" W. A. Lump	5 25	5 50	Lorberry Coal	6 00	6 25
" Broken	5 75	6 00	Shamokin	....	6 50
" Egg and Stove	6 90	7 25	Franklin, (Lykens Val.)	7 50	....
" Chestnut	5 50	5 75	Broad Top	5 00	....
Hill & Harris, Egg & St.	7 50	....			

From Elizabethport and Port Johnson.

Albany	$1 10	— —	New London	$1 50	— —
Boston	2 85	— —	Newport	1 75	— —
Bridgeport	1 85	— —	New York	65	— —
Fall River	2 00	— —	Norwalk	1 35	— —
Hartford	2 00	— —	Norwich	1 75	— —
Hudson	1 10	— —	Pawtucket and towing	1 85	— —
Wareham	2 20	— —	Portland	2 85	
Middletown	1 85	— —	Portsmouth	3 00	
New Bedford	2 00	— —	Providence	2 00	— —
Newburyport	3 00	— —	Salem	2 50	— —
New Haven	1 35	— —	Augusta	3 25	— —

Provincial Freights.

TO NEW YORK.		TO BOSTON.	
Sydney	$3 50	Sydney	$2 75
Lingan	....	Lingan	2 25
Cow Bay	4 50	Cow Bay	....
Port Calidonia	4 25	Port Calidonia	3 00
Little Glace Bay	4 00	Little Glace Bay	2 75

Scranton Coal at Elizabethport, Oct. 30, 1868.

(Corrected weekly by D. L. & W. R. R. Co.

Lump	5 25	....	Egg	7 00	....
Steamer	6 00	....	Stove	7 25	....
Grate	6 50	....	Chestnut	6 25	....

Prices for Pittston Coal at Newburgh, Oct. 30, 1868.

(Corrected weekly by Penna. Coal Co.)

Lump, per ton, 2240 lbs.	....	....	Egg " "	....	....
Steamer, " "	....	....	Stove " "	....	....
Grate " "	....	....	Chestnut " "	....	....
Pea " "	....	....			

70 cents additional to New York.

Lackawanna at Rondout, Oct. 30, 1868.

Lump	5 25	....	Egg	6 25	....
Steamer	5 50	....	Stove	6 50	....
Grate	5 75	....	Chestnut	5 25	....

65 cents additional to New York.

Lehigh Coal at Elizabethport, Oct. 30, 1868.

Lump	7 50	....	Chestnut	6 50	....
Steamboat and Broken	7 25	....	Stove	7 50	....
Egg	7 25	....			

Wilkesbarre Coal at Hoboken, Oct. 30, 1868.

(Corrected by Wilkesbarre Coal & Iron Co.)

Lump	6 50	....	Egg	7 00	....
Steamer	7 00	....	Stove	7 25	....
Broken	7 00	....	Chestnut	6 25	....

At Baltimore, Oct. 30, 1868.

Wholesale prices to trade.			By retail, per ton of 2,240 lbs., delivered		
Wilkesbarre by cargo or car load	$6 50	@6 75		$ 8 00	8 50
Pittston and Plymouth	6 40	6 60	Georges C'k & Cumberland f. o. b. at Locust Point for shipping	4 90	5 00
Shamokin R., or W. Ash	6 50	6 75			
Lykens Valley, R. A.	6 30	6 50			
Trevorton R. A	6 00	6 25			

At Havre de Grace, Md.

Cargo prices for shipment *south* of Patapsco River, (drawback allowed of 21c.)			Shamokin R. or W. Ash	$6 85	@ 700
			Lykens Valley R. A	....	700
			Trevorton R. A	6 50	6 75
Wilkesbarre and Pittston					
W. Ash	$6 75	@....			

At Georgetown, D. C. and Alexandria, Va.

George's Creek and Cumberland f. o. b. 4 55 @4 75

An advance of twenty cents per ton has recently been allowed boatmen on canal freights from Cumberland, and the price of coal correspondingly advanced.

Prices of Gas Coals.

October 23, 1868.

PROVINCIAL. Duty, $1 25	Coarse. Gold.	Slack. Gold.	AMERICAN.	Coarse. Currency.	Slack. Currency.
Block House	$1 75	@$ 75	Westmoreland Co	$8 50	$8 00
Gowrie	1 75	75	Despard Coal Co	8 50	8 00
Lingan	1 75	75	Penn	8 50	8 00
Sydney	2 13½	71½	Newburgh Orrel Gas	8 50	8 00
Pictou	2 13½	1 18½	Delivered in New York.		
Little Glace Bay	1 75	1 00			
Caledonia	1 60	75			

Prices of Foreign Coals.

Duty, $1 25 per ton.

Corrected weekly by PARMELEE BROS., 32 Pine Street, N. Y.

Liverpool Gas Caking	$ 9 50	Liverpool House Cannel	18 00 19 00
" " Cannel	14 00	" Orrel.	16 00 18 00

Per ton 2240 lbs., Ex. ship.
PRICES FROM YARD.

Liverp'l House Orrel, scr'd	$20@23	Liverp'l House Can'l, scr'd	$22 00 25 00

Per ton 2000 lb., delivered.

Coal Freights.

(Corrected Weekly).

Rates of Freight from Newburgh.

RIVER.		EASTERN.	
On "Pittston" Coal, by boats and barges of the Pennsylvania Coal Co., per ton of 2,240 lbs.		Stamford	$1 60
Troy and West Troy	$ 55	Norwalk	1 60
Albany and Greenbush	50	Bridgeport	1 60
Coeymans	45	New Haven	1 60
Coxsackie and Stuyvesant	40	New London	1 80
Hudson and Catskill	35	Norwich	1 90
Saugerties and Barrytown	35	Mystic	1 85
Rhinebeck and Rondout	30	Stonington	1 85
Po'keepsie and New Paltz Land.	25	Sag Harbor	1 85
Fishkill Landing	20	Bristol	1 95
Cold Spring and West Point	30	Newport	1 95
Peekskill	40	Fall River	1 95
Haverstraw	45	Providence	2 00
Sing Sing and Nyack	50	Dighton	2 00
Tarrytown and Pierpont	50	Warren	2 00
Yonkers	55	Pawtucket	2 20
The coal must be discharged with all reasonable dispatch, at the expense of the consignee, who shall also pay wharfage on the boat. Boatmen will tend guy while unloading.		New Bedford	2 10
		Boston	3 00
		East Cambridge	3 10
		Salem	3 00
		Newburyport	3 10
		Portsmouth	3 10
		Portland	2 90

Freights on Coal Sea-borne from Port Richmond, Philadelphia.

Oct. 23, 1868.—From Philadelphia and Reading R. R. Wharves, Phila., to

Bangor	3 50	....	New London	— —	2 70
Boston	— —	3 50	Dover	— —	@3 55
Providence	— —	3 00	Cohasset Narrows	— —	3 40
Lynn and discharging	— —	3 50	Cambridgeport	— —	4 00
Portland	3 50	....	Dorchester	— —	3 30
Fall River	— —	3 00	Fair Haven	— —	2 75
New Bedford	....	3 00	Gloucester	3 40	3 50
Salem	....	3 50	Lawrence	— —	3 40
Newport	— —	3 00	Old Cambridge	— —	3 80
East Cambridge	— —	3 30	Saco	— —	4 10
Newberryport	— —	3 75	Roxbury	— —	3 55
Portsmouth	— —	3 75	Salisbury	— —	3 80
Charleston	— —	2 00	Greenport	— —	2 75
Danversport and discharging		3 50	Norwich	— —	2 75
Amesbury	— —	3 90	Harlem	— —	1 45
Beverly	3 50	....	New Rochelle	1 30	1 40
Charlestown	....	3 50	Sag Harbor	— —	2 75
Hingham	3 35	3 40	Spuyten Duyvel	— —	1 40
Marblehead	....	3 60	Williamsburg	— —	1 35
Nantucket	— —	3 50	Jersey City	— —	1 40
Plymouth	— —	3 35	New Brunswick	— —	1 20
Provincetown	— —	3 50	Alexandria	— —	1 80
Washington	— —	2 25	Fredericksburg	— —	2 20
Calais	— —	3 30	Wilmington, Del.	— —	1 00
Machiasport	— —	3 30	Bath	....	3 70
Hoboken	....	1 60	East Greenwich	....	3 ..
Hyannis	....	3 50	Providence	....	3 ..
Malden	....	.. 4	Albany	....	1 95
Nahant and discharge	3	20	New York	1 50@	1 60
Weymouth and towing	3	50	Troy	....	1 95

Foreign Freights.

New Castle and Ports on Tyne	£18@£15 keel.		
Liverpool	12s. 6d.@15s. ton.		
Australian	9 50@10 00	Lehigh	15 50@16 00
do. Wallsend	10 00 10 50	Liverpool	13 00 ....
Bellingham Bay	11 00	Pittston, ton	14 50 15 00
California	7 00 9 00	Scranton	14 00 15 00
Cumberland cks	30 00 32 00	Scotch	13 00 ....
do bulk	28 00 ..	Vancouver Island	12 50 ....
Chili	10 00 ..		

Rates of Transportation to Tide Water.

[BY RAILROAD.]

To Port Richmond, Philadelphia.

Philadelphia and Reading Railroad, from Schuylkill Haven $2 00

The following are the drawbacks allowed on all coal shipped East of New Brunswick and South of Cape Henry, until further notice.

	Drawback.	Freight.	Nett.
Lump	60	$2 00	$1 10
Steamboat	60	2 00	1 40
Broken	25	2 00	1 75
Egg	25	2 00	1 75
Stove	25	2 00	2 00
Chestnut	15	2 00	1 85

From Port Carbon, 8 cents per ton more.

To Elizabeth.

L. V. Railroad from Mauch Chunk to Easton	$ 92
C. R. R., N. J., Easton to Elizabethport	1 38
	2 30
Shipping Expenses at Elizabethport	25
Total	2 55

To Port Johnson.

L. V. R R.	$ 92
C. R. R. of N. J.	1 46
Shipping Expenses	25
Total	2 63

To Hoboken.

L. V. R.R.	92
Morris & Essex R.R.	1 46
Shipping Expenses	25
Total	$2 63

To Philadelphia.

[BY CANAL.]

From Schuylkill Haven to Port Richmond	$1 00
Freights and tolls by Raritan Canal	2 25
	3 25
No Drawback	
Total	3 25

To New York.

From Mauch Chunk to New Brunswick, by Lehigh, Del. Div. and Del. & Raritan Canal	$1 29
Freights through	1 45
Towage	20
	2 94

To New York via Morris Canal.

Lehig Canal	$ 44
Morris "	05
Towage	10
Freight	1 75
Total	2 94

Expenses from Mauch Chunck to Jersey City for Re-shipment.

Lehigh tolls (net)	$ 49
Morris "	49
Freight	1 65
Re-shipping	30
Total	2 93

SAN FRANCISCO STOCK MARKET.

A telegram from San Francisco, dated Oct. 28, quotes:

STOCKS.	Per Sh.		SHARES.	Per Sh.	
Gould & Curry		@	Belcher	132	....
Savage	86	$4.75	Imperial	111	112
Chollar Potosi	146	145	Alpha	42	..
Hale & Norcross	45	46	Amador	210	205
Crown Point	45	..	Kentuck	289	278
Yellow Jacket	1460	15.00			

Nova Scotia Coal Exports.

The following is an account of the exports of coal from the port of Cow Bay, C. B., for the quarter ended the 30th of September, 1868:

In British Ships.	Tons.
To Newfoundland	1,545
To Prince Edward Island	1,308
To New Brunswick	1,052
To Canada	945
To Labrador	187
To United States	20,516
To St. Pierrie	164
In Foreign Ships.	
To the United States	14,186
Total	40,110

Total export of coal during the month of September, 1868, 20,470 tons, in 72 ships.

☞ A curious calculation is published by a M. Hauchecorne, as to the comparative proportion to the receipts of the working expenses of the railways of Europe in 1865. M. Hauchecorne states the proportion as follows: Austrian, 38.8 per cent.; Prussian, 49.4 per cent.; French, 40.7 per cent.; Netherlands, 43.7 per cent.; Danish, 45.1 per cent.; German States, 47.6 per cent.; English, 47.9 per cent.; Spanish, 55 per cent.; Portugese, 55.1 per cent.; Russian, 59.4 per cent.; Italian, 59.7 per cent.; and Swedish, 59.8 per cent. Of course, feebleness of traffic or the reverse has a good deal to do with the proportions which Mr. Hauchecorne has so painstakingly established.

☞ A mining broker, who has recently taken a trip through the mining fields of South Missouri, said: "Missouri wants 50,000 miners." The present number of lead mines in Missouri is about 800. This includes all the mining done, except quarrying the iron ore from the mountain, and a few adventurers exploring for the finer metals. There are about 1,500 miners in the upper lead field, and $1,500,000 worth of lead sold in 1867, being $1,000 to each lead miner.

☞ Dr. Lunge has published a method of making an excellent black varnish for iron work. He distills gas-tar until nearly all the volatile products are got rid of. He then stops the distillation and dissolves the residual pitch either in the heavier oils, or, if a very quickly-drying varnish is required, in the light oils or naphtha. This varnish, is, of course, the original tar, minus the ammonia, water, carbonic acid, and other things which give it its disagreeable odor, and makes it so long in drying,

☞ We omitted to notice last week the destruction by fire of the Bessemer steel works of J. A Griswold & Co., at Troy, N. Y., on the morning of the 20th inst. The loss on the building and machinery is estimated at $50,000, and insured for $35,000. Between 100 and 200 men were thus thrown out of employment. The works will be rebuilt immediately.

☞ Rrof. Robert von Schlagintweit of the University of Giessen, one of the celebrated explorers of India, especially of the Hymalayn region, is soon to arrive in this country, under an engagement for a series of lectures at the Lowell Institute, of Boston, "On the Results of a Scientific Mission in India and Upper Asia."

☞ A reliable informant, just returned from an exploration tour in Cape Breton, relates the discovery of an oil spring there, but for reasons which can be appreciated, does not at present wish the precise locality to be named.

☞ The proprietors of the Tilt Cove mine, Newfoundland, estimate their shipments for this year at 8,000 tons.

AMERICAN

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T. P. PEMBERTON is Corresponding and Traveling Editor.

W. B. HARRISON is Editor of the Mechanical Department.

☞ Correspondents, exchanges and others addressing us should be *extremely careful* to write "JOURNAL OF MINING," instead of "MINING JOURNAL," and to give the number of our Box at the Post Office, which is 5969, to ensure safe carriage. Communications intended for publication should be plainly written, and on one side of the paper only.

NEW YORK, SATURDAY OCTOBER 31, 1868.

CONTENTS OF THIS NUMBER.

EDITORIALS—Report of Commissioner Wilson—Some Practical Facts in Regard to Steam Engines—Gold in Transylvania — Chemical Laboratories

ORIGINAL PAPERS.—Official Report of Hon. J. Ross Snowden, No. II.

PRACTICAL LETTERS.—On the Ventilation of Coal Mines, No. XIV, by J. W. Harden, M. E.—Lessons on Practical Drawing, No. XVI, by T. P. Pemberton.

SCIENTIFIC MEETINGS.—Lyceum of Natural History—New York Society of Practical Engineering.—Polytechnic Branch of the American Institute.

ILLUSTRATIONS.—Pickering's Improved Velocipede—Cooking stoves—Magic Lanterns.

CORRESPONDENCE—The Pacific Railroad.

MANUFACTURING AND MECHANICAL NOTES—The Arctic Lamp — Items from the Brooklyn Machine Shops—Brooks' & Bacon's Hoisting Machine—Steam Boiler Explosions and Examinations.

MINING SUMMARY.—GOLD & SILVER: Colorado—Montana — Idaho — Nevada—Nova Scotia—Canada—Mexico—South Africa—New Mexico—COPPER:-Michigan.

MISCELLANY—Subterranean Temperature.

REVIEW OF THE IRON TRADE.

THE COAL TRADE.

MINING AND OTHER STOCKS.

METAL MARKET.

ANSWERS TO CORRESPONDENTS.

SPECIAL NOTICES.

PATENT CLAIMS.

NOTICE TO CORRESPONDENTS.

In consequence of a new regulation recently adopted by the Postmaster of this city to facilitate the early delivery of mail matter, we have to request our correspondents, in addressing us, to give the number of our post-office box, No. 5,969, in lieu of, or in connection with our business office address.

MORE SUBSCRIBERS WANTED—LIBERAL INDUCEMENTS.

We make the following very liberal offers to any who may feel disposed to aid us in increasing the circulation of the JOURNAL OF MINING. To any one who will send us the names and addresses of *five* new subscribers for the period of one year, and $20 in currency in payment therefor, we will give in return for such effort one copy of Kustel's new work on "Concentration and Chlorination," Price, $7 50. That is an after that should most assuredly command the attention of all who are in need of the work.

Again, any one sending us the names and addresses of *four* new subscribers and $16 in payment therefor, will be rewarded with the neatly bound Vol. No. V. of the JOURNAL OF MINING. Price, $5,00. For *three* subscribers we will present a copy of Hollister's "Mines of Colorado." Price, $2,00 Or again, for *two* subscribers, one copy of William Hopton's "Conversations on Mines."

Should none of the above works be desired, we will furnish any that may be called for under the above terms.

THE REPORT OF COMMISSIONER WILSON.

The Report of the Commissioner of the General Land Office for the year 1867, although it has been a long time before the public, has never received from this journal the attention and the praise which it deserves. Having recently had occasion to turn over its pages in search of information, we found, not what we were looking for—who ever found that?—but a mass of useful and most interesting matter. Documents of this kind are calculated to arouse the admiration of other nations by their clear and comprehensive presentation of the great natural resources of this country, while they certainly would increase the confidence of our own citizens in the wealth and financial soundness of the government.

Unfortunately, there has been a general notion that "Pub. Docs." are necessarily dry and stupid things, only fit to lie on the tables of country taverns, and ultimately to wander to that classic den in Ann Street, where "cash is paid for Confederate bonds." This popular impression is a great mistake, and we are glad to believe that it is passing away. The public documents of the United States are more practical and generally useful to the people than those of any other nation.

Commissioner WILSON's report is no exception to this rule. It is crammed with suggestive and instructive material. Dr. F. V. HAYDEN's report on Nebraska has the highest scientific value; the commissioner's observations on the Precious Metals, form an admirable digest of the standard authors on that subject, and his remarks on Useful Minerals, though here and there lamentably out of date, may still be read with profit. It *is* a little late, we confess, to quote WHITNEY's "Metallic Wealth"—a book which has been the prey of plagiarists since 1853. We thought PHILLIPS had stolen all there was left of it; but it seems he overlooked some crumbs, which Mr. WILSON did not scorn. After all, he could have done much worse than quote WHITNEY—he might, for instance, have quoted PHILLIPS.

The one thing that we desire to see improved in reports of this character is their patch-work style of construction. A few subjects are treated with masterly completeness and perfect originality; then whatever material, old or new, comes handy, is thrown into the form of general remarks on various cognate topics; and the result is that the reader is interested, but not satisfied. The report before us, for instance, is not thorough on any subject except that of the business of the public land office. Too much has been attempted in the way of outside matter; and the achievement, though it may extend among ordinary readers the reputation of the Commissioner, will not convince thoughtful men that he really understands all things. It should be enough for him to know that he is, and is universally considered, a master in his own department. In mining, metallurgy etc., it is not surprising that his report shows occasional inaccuracies.

If we were in Mr. WILSON's place, we would at once bowstring the chap who "did" Nevada for us. Virginia City is represented to have a population of 20,000; Austin is set down at 12,000; and things generally are, like these two, multiplied by four, with the exception of Pahranagat, which is multiplied by, heaven knows how many, being classed with Austin and Belmont, as a prominent point of production. Some mines on the Humboldt are mildly pronounced to surpass the Comstock in value, and, in short, the 64th and 65th pages of this dignified and generally moderate report read as though Uncle Samuel had gone into the wholesale bilk business, with extraordinary facilities and a heavy stock of goods.

We understand that the report of the General Land Office for this year will contain a thorough analysis and application of the present mining laws of the United States. This is much needed, though not so much as an amendment of the law. But it will be some satisfaction to get an exposition, even of the present imperfect code, from an authoritative source. Some of the rest of us really don't known what it means.

SOME PRACTICAL FACTS IN REGARD TO STEAM ENGINES.

Experience has taught many interesting and important facts, in relation to the steam engine, which have opened a new line of physical investigation among philosophers, and the discovery of many important laws, some of which we have communicated in former articles, and intend to discuss further in the future.

Some of these facts relate to the amount of grate and boiler surface exposed to the heat, required to develop a given amount of steam in a given time, and consequently required for a certain amount of horse-power. As 1,000 units of heat will produce from 58,000 to 66,000 foot-pounds, according to the steam pressure employed (page 248), they will produce, when generated in one minute, about 2 horse-power, since a horse power is equal to 33,000 foot-pounds per minute; and it is evident that certain arrangements of furnaces and boilers must be more advantageous than others to produce these 1,000 units of heat per minute, with the least consumption of fuel. The minimum amount of fuel is about one pound of coal for 14,000 units of heat (page 185). If burned in one minute, or 60 pounds per hour, this will consequently produce 28 horse-power, representing a little over two pounds per hour per horse-power. This theoretical minimum is, however, never reached, and an engine is considered better in proportion as its consumption of coal approaches to this figure. Usually, the consumption is double this, and even more—from six and even eight pounds per hour per horse-power; but some of the modern improved engines come tolerably close to the theoretical amount above stated.

These differences depend on the kind of boiler, engine, cut-off, expansion, condensation, loss of heat and resistance in conveying the steam to the cylinders, etc., etc. The treatment of these details belongs to a special treatise on the steam engine.

We will only state that it has been decided, by virtue of long experience, to have for every horse-power of the engine from 8 to 18 square feet heating surface of boiler, from one quarter to one square foot grate surface, three cubic feet of furnace room, ten cubic feet of water in boiler, and five to ten cubic feet of steam room. These are somewhat rough approximations, but they are round numbers, easily remembered, and sufficiently near the truth for ordinary stationary steam engines. In steamships, and still more in locomotives, these proportions vary considerably; and some special patent boilers, consisting of nothing but tubes or series of globes, to establish the value of which a few years of experience are yet necessary, are entirely beyond the application of these rules, as they contain a remarkably small amount of water.

As 30,000 units of heat will be produced by the consumption of a little over two pounds of coal, which corresponds with the conversion into steam of 30 pounds of water (page 185), or nearly half a cubic foot, and as we have seen that this produces one horse-power when accomplished in one hour, it is clear that the common statement that the generation of a horse-power in the steam engine requires the evaporation of one cubic foot of water per hour, is the double of our theoretical amount, and pretty near the truth for all practical purposes, when ordinary engines are mentioned. Superior ones of course give results between this and our theoretical amount.

This theory of steam must not be confounded with the theory of the conservation of force, which teaches that one unit of heat is equivalent to more than 700 units of force. According to the theory of steam, the unit of heat is only equal to about 70 units of force, one tenth part of what it would be, could we once succeed in dispensing entirely with the intervention of steam, which in practice gives us even less than one tenth—usually one twentieth (as remarked, page 232.)

GOLD IN TRANSYLVANIA.

The gold mines of Transylvania are among the most ancient in the world, having been worked from the earliest historic period, by methods which, even at the present day, have advanced but little beyond primitive simplicity. In the neighborhood of Falathna and Abrud-banya, the gold is free, disseminated (strange to say) in trachytic rocks. This statement, although endorsed by Dr. GUSTAV TSCHERNAK, in a recent paper, read before the Imperial Geological Institute of Austria, appears to us most extraordinary—at least, if the trachytic rocks referred to are volcanic in their origin.

According to the same authority, mining operations in that locality are carried on by some three hundred companies or partnerships, generally consisting of about three individuals. The rock yields by rude but skillful washing about eight and a half grains of pale gold, containing some silver. This would be somewhere near seven or eight dollars to the ton—a profitable yield, in a country where labor is cheap and abundant. The *debris* of the rocks of the Aranyos Valley is also washed for gold, and yields a better quality, but in very small quantity. We have not the true figures at hand; but the statement copied in the London *Chemical News* (*Am. Repr., Oct.* '68, *p.* 219,) that this material yields "about half an ounce of gold to 31,000 quintals of stuff," is either a typographical error or worse. At that rate the value of the material would be about half a cent per ton, and this, we respectfully submit, will not pay, even in a country where a cent will buy a night's lodging, and a half-dime will admit the fortunate owner to the Royal Imperial Opera.

Pale gold is also found in a peculiar freestone, which is probably a petrified placer! From these queer sources the ancient and honorable mines of Transylvania are said to produce annually more than half a million of dollars, or an avoirdupois ton in weight of gold.

CHEMICAL LABORATORIES.

Prof. FRANKLAND, in his address to the Chemical Section of the British Association, complains that the great science schools of the continent have no parallels in England, and contrasts the "discouraging way in which scientific studies are being introduced into our older universities" with the hearty co-operation which public opinion and governmental power yield to continental science. New and magnificent laboratories for chemical instruction have been erected at Heidelberg, Zurich, Bonn, Berlin, Leipzig and Carlsruhe, while the Universities of Munich, Giessen, Vienna, and other cities have scarcely less splendid, though not so recent, provision for the same objects. Some notion of the value set by foreign governments upon national scientific education may be gathered from the fact that the laboratory at Zurich cost a sum equivalent to $68,000 of American coin, that of Bonn $90,000, that of Leipzig $58,000, and the estimates for the Berlin laboratory, with its seventy-four rooms, amount to nearly $231,000.

Is it cause for wonder that both English and American students are still obliged to go away from home for thorough instruction in chemistry, to countries where science receives due nourishment and support? The Anglo-Saxon race is characterized by the activity of its individual members, and its forms of government leave as much as possible to the individual enterprise of the citizen. We hope the future will prove that democratic America, at least, is determined not to lag behind monarchical Europe in the

earnest cultivation of science. The liberality and public spirit of our citizens mu-t take the place of the paternal government. There has been a great progress in this direction. Men are more likely than they were, to leave money for educational institutions; and when they outgrow the childish desire to found new and feeble colleges, and begin to endow adequately the old ones, Young Science in America will lift up her head without shame before her sisters beyond-sea.

ANSWERS TO CORRESPONDENTS.

J., of ——, an anonymous correspondent, asks if steam is inflammable. As steam is the product of the combustion of hydrogen in oxygen, it cannot burn for the second time; all the water on earth is the burnt up hydrogen, which, by its combustion with the oxygen, has given up its heat. Far from being capable of burning again, it will extinguish fire, as has been practically tested in factories, where beginning conflagrations have been effectually stopped by blowing steam into the building until it was entirely filled. Of course this method is only applicable in closed buildings; where there are openings through which air may have access it is ineffectual.

S. A., of Chicago.—The plan of desulphurizing ores by the use of super-heated steam has been pretty thoroughly tried in Europe. The experiments covered air alone, air and steam, and steam alone. The result was not particularly favorable to steam. At present we only know of one process in which it is employed. That is the treatment of certain sulphurous iron ores, in Finland. The furnace employed is a kiln, and the ore is roasted in lumps. The Finnish furnace was introduced here some years ago by a company claiming a patent upon it. Very possibly they got their patent, but their process has not yet been successful on a large scale.

M. S., of Tennessee.—The Editor of this Journal does not negotiate the sale of mineral lands, "and take his pay out of the proceeds." Nor does he as a Mining Engineer, in his private practice, examine and report upon mining property with the understanding that he is to "be well paid if his report is so favorable as to effect a sale." Nor will he be able to visit your property out of scientific curiosity. Nor can he tell what your three hundred acres are worth from the piece of mica slate you sent in your letter (single postage). Please show this to all your friends.

D. Smith, New York City.—There is much difficulty in obtaining metallic cobalt, pure, and it is never employed in the metallic state, so that the processes for its reduction are generally carried on upon a small scale, and confined to the experimental laboratory. The native combinations of cobalt are the oxide and the compounds of the metal with iron, nickel arsenic and sulphur. The ore called *glance cobalt* is a sulpho-arsenide. The *red ore* is an arseniate.

E. N. B., of Boston.—According to the statistical facts recently laid before the Royal Institution of Great Britain, by Professor Jevons, the total quantity of coal produced by the mines of the United Kingdom in 1866 was 101,630,544 tons, and in 1867, according to official returns, 104,000,000 tons. Professor Jevons deduces the fact that the British coal trade is the greatest trade, in regard to both bulk and weight of commodity, ever carried on.

A. H. H. of Penn.—We think you are incorrect, as it has been stated that the engine "Pennsylvania," used as a pusher on the Reading Railroad between The Falls and Port Richmond, is the largest locomotive in the United States. It has twelve driving wheels, and weighs over forty-four tons. A railroad man informs us there are only two larger locomotives in the world, and they are used on the Mt. Cenis Railway.

C. Ashmead, of Philadelphia.—The tinning of copper vessels is very easy and simple. The surface to be so covered is first cleaned, then rubbed with sal-ammoniac; it is then heated, a little pitch is spread over the surface and a bit of tin rubbed over it, which instantly unites with and covers the copper. A little experience will enable the operator to successfully perform the process.

E. G. N., of Montana.—Before the blow-pipe, black oxide of copper is not altered by the exterior flame, but becomes red suboxide in the interior. With borax it forms a green glass, while hot, which becomes blue-green as it cools. When strongly heated on charcoal in the interior flame, the metal is reduced.

F. M. G., New York.—Some of the Editors of the American Journal of Mining are Republicans and some are Democrats. When they get excited, the chief generally says, "My Friends," "let us have peace."

Correspondence.

[To insure insertion of correspondence in our columns, the full name and address of the writer must be given.]

The Pacific Railroad.

New York, October 25, 1868.

Editor American Journal of Mining:

Some papers have published statements to the effect that the Union Pacific Railroad was quickly, but carelessly and badly built. Now, sir, I wish, as a simple witness, to testify to the truth, and must declare this statement false in every respect. During the last four years I have had considerable experience in railway traveling, and I must confess that the road runs much smoother than that from New York to Philadelphia used to be, over which, in 1866 and 1867, I traveled nearly every week. The latter has been improved somewhat, but on account of the suppression of all competition, it has never been, nor, indeed, even now is it, in a condition becoming the highway between the two largest cities of this continent, and between the capital and the metropolis of the United States. During my late trip from Colorado to the Saquenay River, below Quebec, I had occasion to compare the different lines, and must call the Union Pacific a first class road, as well in its construction as in the elegance and comfort of its cars; and, in fact, all our roads compare favorably with the Grand Trunk of Canada, which is, perhaps, even worse than the Camden and Amboy used to be.

During my late stay at Omaha I obtained some information about the bridge built there last winter by the Union Pacific Railroad Co. across the Missouri River, which, in many respects, may be interesting to your readers. As of course the ice could not be depended upon to bear the heavy loads continually crossing there, holes were made in it, in order to drive piles to the bottom of the river. These piles were of various length, ranging from 10 to 40 feet, according to the depth. They were placed at suitable, but rather short distances, connected at the tops by framework made of heavy timber, and on this the sleepers and rails placed. The expenses connected with the numerous steam ferry boats employed here by the Union Pacific Railroad Co. are so large, by cause of the enormous mass of bulky and heavy material transported here for the West (to which I have alluded, page 121, of this Journal,) that it is said that the whole expense of the building of this bridge were every few days paid for by the saving of ferriage. At the end of the winter, when the ice broke up, as many of the rails were saved as possible, but more than half the bridge went down with the current and was lost; but this was of small account, compared with the profits gained during nearly three months. The plan is to repeat the same operation in almost the same manner, as soon as the ice sets in the Missouri River, which, at the latitude of Omaha, is generally pretty early, the winter being very long and severe. The lowest range of thermometer there last winter was 33° below zero, Fahr.

P. H. Van der Weyde, M. D.

Scientific Meetings.

LYCEUM OF NATURAL HISTORY.

IRON MANUFACTURED FROM THE TITANIFEROUS IRON SANDS OF CANADA—GOOD IRON FROM PYRITES.

A regular meeting of this Society took place on Monday, the 26th inst., Prof. Newberry in the chair. After the preliminary business, Prof. Eggleston rose to speak. During his vacation trip in Canada he had seen some iron which, in toughness, purity and fibrous structure, was as fine as any in the world. A railroad axle 2½-3 inches in diameter, made from this iron, was bent up cold; a stout bar, 2 inches thick, twisted till it looked like a corkscrew and could be twisted no longer: and it had been submitted to other tests, all of them signally demonstrating the superiority of this iron. The greater was his astonishment on learning that it had been manufactured from the titaniferous iron sands occurring at the mouth of the St. Lawrence, at the Misoic Iron Works, under the superintendence of Mr. Molson. Here are two novelties; for, in the first place, the manufacture of iron from any sands had never before succeeded, as such finely comminuted material would choke up the furnace, or sift through the charge without undergoing reduction; in the second place, these sands had the additional drawback of containing 12-20 per cent. of titanic acid. The sands are worked in a bloomery furnace, the tuyere, however, entering not at an angle, as is usually the case, but almost horizontally, thus increasing the zone of reduction. All of the titanic acid present goes, as such, into the slag (which shows a remarkable tendency to crystallize and gelatinize with hydrochloric acid), while the magnetite present is reduced, and furnishes the finest iron. The question whether this process will be pecuniarily successful will soon be decided by experiments now going on.

In the discussion that followed, Prof. Newberry suggested that, by proper communition, it might be possible to obtain the same results with the large beds of titaniferous magnetite, stretching from Canada down through the whole of the Laurentian region.

Mr. Smith remarked that he had also noticed the tendency to crystallize in slags from the iron region near Easton, Pa., where they work titaniferous magnetic iron ores.

During the discussion, Prof. Eggleston also gave an account of experiments now being made by a party in this city, with a view of producing good iron from pyrites. The furnace is similar to an "old Swedish furnace," very much cut away, and steam heat is employed; the material is kept in the lower part of the furnace at a white heat, till agglutination takes place; the pasty mass is then skillfully worked and separated into grains, and afterwards withdrawn. He would not prejudge the case, but entertained no great hopes of success.

Observations were then made regarding the late earthquake in Peru, by Mr. Squier, while Prof. Newberry drew attention to some interesting facts in Zoology, after which the the meeting adjourned to Monday, November 2d. Dr. Stevens will, at the next meeting, communicate his experiences during his late geological expedition in Venezuela.

THE NEW YORK SOCIETY OF PRACTICAL ENGINEERING.

SEWERS AND SEWERAGE.

The stated semi-monthly meeting of the Society of Practical Engineering was held on the evening of Tuesday, October 27th, at Room 24, Cooper Institute.

The principal subject of the evening was "Sewers and Sewerage, as Affecting the Sanitary Condition of Cities," upon which an interesting paper had been prepared by Mr. J. P. Kirk, who reviewed the particular features of various plans of sewers and sewer systems of different cities, both in regard to their efficacy for surface as well as sub-drainage; and also the most effective method of ventilating and disinfecting. The great magnitude and vast expenditures upon the London and Paris systems were more particularly referred to; and the adaptability of the London low-level or sub-drainage system, with certain modifications, to the sewerage system of New York city was specially pointed out as being applicable, on account of the similarity of the topographical location and circumstances of the sites of the two cities.

It was stated that the cost of this new system of sewerage in London was $25,000,000, and upon which the best engineering talent of the city was concentrated. Some of the main drains or low-level sewers are about ten feet in diameter, and nearly ten miles long; and at some points in their line of construction at as great depths as 75 feet below the surface. The great depth requires steam power to elevate the sewage at one or more points, where the sewage is pumped into "outfall sewers," which convey it to the point of discharge into the river.

The extent and character of the famous sewers of Paris were referred to, as well as the different plans for ventilating, which have been at various times proposed.

It was also stated that there are over 200 miles of sewers built in the city of New York, which are being constantly added to, and are being built as needed, when streets are extended. It was assured, that all that was needed to have the great benefits of the London system for the low-lying districts of the city was the proper authorization and provision for the necessary expenditure. The plan of building coffer dams outside the bulkhead lines, before constructing the low-level sewers, was thought might answer, if these coffer dams could be made tight.

The writer proposed to take up and resume the subject at a future time, together with the consideration of the different plans of ventilation and improvements in the construction and cleaning of sewers.

POLYTECHNIC BRANCH OF THE AMERICAN INSTITUTE.

NEW PIANO KEY-BOARD—A COMBINATION SCREW-DRIVER.—THE OAK AND ITS PRODUCTS—NITRO-GLYCERINE.

The regular weekly meeting of the Polytechnic Branch of the American Institute was held on Thursday evening, Oct. 29, Professor Tillman in the chair. The first invention presented was a new key-board, invented by Mr. Theodore Roz and designed as a supplemental board to the ordinary piano, and being made much smaller is adapted for the practice of children. By an ingenious arrangement of levers these smaller keys as they are played upon act upon the ordinary ones and produce the same results as they should if the large ones were manipulated.

Mr. Edgar J. Amor exhibited a combination screw-driver and wrench. The blade of the implement is pierced with holes of various sizes and shaped so as to answer for a wrench for turning reamers, screw taps, etc.

Dr. Wetherbee read a interesting paper upon the oak and its products, and remarked that no kind of wood possessed greater durability, and cited the instance of Prince Arthurs round table and the carved shrine of Edward the Conqueror which are now in good preservation. The products of the tree were then reviewed and their properties chemically explained. A spirited discussion followed the reading of the paper. Mr. Disturnell remarked that vinegar was made from oak wood, and Dr. Parmelee said that it could also be made from the beach and some other woods. Dr. Bradley said the oaks of California are not indiginous to the Atlantic States.

Mr. George Mowbray was then introduced to the audience and gave a very interesting account of the use of nitro-glycerine at the Hoosac tunnel. He said that this explosive was not so very terrible when we become acquainted with it, yet it is of such a nature that it cannot be trifled with, and due respect must be paid to it. After giving some of his experience in the manufacture and the difficulties encountered to obtain it of the requisite quality, he gave some of his experience in handling and exploding it. A little below the temperature of 48 degrees it becomes frozen and resembles ice, and it then may be handled and transported in safety. Among the experiments mentioned with it in a frozen state was, that gun-cotton, fulminate and even gun powder had been fired upon it and no explosion followed, and when placed in a tube, the result was driving out the nitro-glycerine in the form of a candle, no explosion then taking place.

A description of several other explosive compounds was then given by Dr. Parmelee, Dr. Van der Weyde and others, and much discussion followed, and at an unusual late hour the meeting adjourned for one week.

Original Papers.

[Furnished the American Journal of Mining by the Hon. Hugh Mc Culloch, Secretary of the Treasury.]

OFFICIAL REPORT OF HON. J. ROSS SNOWDEN, UPON THE MINERAL RESOURCES OF COLORADO.—NO. II.

IDAHO.

This village and vicinity is within the auriferous belt of which Central City is a central point; and it is also on the border of the argentiferous region which surrounds Georgetown.

It is therefore a point of considerable interest. I made examinations and inquiries here with a view to ascertain whether there is any distinct geographical line of separation between the gold and silver producing districts. None however could be ascertained. They are blended together in the mountainous regions surrounding Idaho, but become more characteristically silver as the belt is followed to the Argentine and Griffith Districts.

The product of gold from Clear Creek, embracing that portion lying between Fall River, 3½ miles above Idaho and Floyd's Hill, 7 miles below, has been quite large, both from gulch washings and mining quartz veins. An intelligent and well-informed mining engineer, Mr. T. H. Lonk, estimates the entire amount produced at $1,600,000. At the present time many of the bar and hill claims are being worked, and with profitable results. The quartz veins in this belt run N. E., and S. W., through the Idaho and Argentine Districts. Many of the lodes are of great prominence and value. They generally yield quartz on the surface that carries gold and silver, the former metal predominating; but when the veins are worked to a depth, say of 100 or 200 feet, the gold diminishes and the silver increases in quantity. The average assay per ton of the Seaton Lode, one of the most prominent and characteristic, is as follows: Gold, $194 00, Silver, $288 00—total value per ton, $482,00. The ore contains argentiferous galena, zinc blende and iron pyrites. The width of the crevice (the space between the wall rocks) is about 9 feet, and the pay vein is variable and widens to 3 or 4 feet. There are many other lodes of nearly similar character in this district, among which is the "Crystal," a valuable lode near Idaho.

—ia.

GEORGETOWN.

Taking the excellent road which we have traveled from Denver, and ascending Clear Creek 15 miles, we reach Georgetown, the centre and entire pot of the silver producing districts. This is an interesting and prosperous village, handsomely located in the little valley of Clear Creek, and is surrounded by high mountains, in all of which valuable lodes of true silver ores have been found, many of them being at the present time profitably worked. This region had been prospected for gold as early as 1859, but it was not until the fall of 1864 that the silver lodes were discovered; various causes have interfered with their exploration from that time until within a year or two past; but now the mines are worked under the direction of competent and reliable agents and superintendents; mills are in operation, and others in course of completion; and this district is entering upon the threshold of a career of great prosperity and wealth. The best ores are found in or near the highest altitudes. I ascended most of the mountains from which ores have been mined, namely—Summit, Democrat, (Astor Peak) Brown, Sherman, McClellan, Leavenworth, and others. The richest lodes are found at an altitude of about 11,500 feet above the level of the sea. Georgetown is 8,452 feet above the level of the sea, and the mountains I have named rise about 3,300 feet above that place. It is somewhat remarkable that this altitude corresponds nearly with that of the richest mines of Peru, Bolivia and Mexico. The celebrated Potosi mine, in Bolivia, is 11,375 feet above the water level. Those of Chota in Peru are of still higher altitude. The character of the ores varies somewhat in different localities, all of them, however, that came under my notice, bear silver, in sufficient quantities to make their reduction profitable; and when the price of labor and transportation is reduced (the latter will be accomplished when the railroads now in progress, are completed), so as to bear a just proportion to the price of labor and production in the States, the results will be largely remunerative to the active and enterprising operators.

The crevice or space between the wall rocks, which are well defined, is of variable width in those mines, as is also the "pay vein," which lies within. The latter is but a few inches wide in some instances, and in others it widens to as many feet. Generally what it lacks in quantity is made up in the quality of the ore. The assay value of these ores, some statistics of which I hereinafter present, show how rich and productive they are. They exceed in proportionate value the rich mines of Mexico. The mean products of the silver mines of Mexico do not exceed $6,00 per ton. I have not the means at hand to state the yield of the mines of Peru, some of which I believe are richer in silver than those of Mexico. But it will be found that the silver mines of Colorado, in the Argentine and Griffith Districts, exceed those of Mexico in the assay value of the ores, and I doubt not, will well compare with those of Bolivia and Peru. In a few years, unless I am greatly mistaken, the productiveness of those silver mines, as well as the auriferous mines of Colorado, near Central City and elsewhere, will be of vast extent, and add greatly to our national wealth and resources. I obtained many specimens of the ores of this silver belt, one of which from the "U. S. Coin" lode on the Brown mountain, at a height of 2,100 feet above Georgetown, is of sufficient interest to describe. It contains many varieties of silver ore, namely: Argentiferous galena, ruby silver, grey sulphuret of silver, sometimes called silver glance, or brittle silver, copper glance, fahlertz and zinc blende. The ruby silver and grey sulphurets yield each 70 or 80 per cent. of pure silver, the other varieties more or less silver, dependent upon the combination of the metals. In the mines on Summit mountain, 3,100 feet above Georgetown, I noticed native silver, here called wire silver. Some selected specimens have yielded at the rate of $4,000 per ton. The Summit and Comet lodes on this mountain produce specimens of this variety of ore.

The Georgetown Silver Smelting Works are in successful operation; and although the operations are chiefly confined to the reduction of the argentiferous galena ores, yet they have assayed most of the varieties of ores of the silver belt. In answer to my call upon Mr. JOHN T. HERRICK, the Superintendent of the Company, he politely furnished me with a statement showing—1. The manner of reducing the ores. 2. The names of the lodes, the location, width of pay vein and yield per ton of ores brought to the works for treatment. 3. The general assay value of ores reduced from July 1867, to July 1868. 4. The assays of other ores brought to the works for simple assay. 5. General prospects, and an estimate of operations for the present fiscal year, commencing July 1, 1868. 6. The present activity of mining in the Argentine and Griffith Districts. 7. Some general remarks upon the silver regions of Colorado. I present Mr. Herrick's paper as part of this report. [To be published in a subsequent issue of the JOURNAL OF MINING.—ED.] Some of the statements are known to me personally to be accurate, and all may be relied upon as coming from an intelligent and well informed gentlemen.

The German reducing works of Messrs. HUEPEDEN WOLTERS & Co. are in successful operation. They use the smelting as well as the amalgamating process. The Washington Mining Association are erecting mills in which the stamp process, and smelting with reverbatory furnaces will be used. The agent, Mr. GEORGE STILLE, informed me that the works will have a capacity to reduce 30 tons of ore in 24 hours.

The Baker Silver Mining Co. are erecting, and have nearly completed, an extensive mill for smelting the ores, and reducing by stamps and amalgamation. Their excellent mines, the Baker Lode, are on the route to Grey's Peak. Grey's Peak is the highest point in this portion of the snowy range, and is perhaps the highest in the entire range. In the published statements of the height of these Alpine summits it is put down as rising to the height of 14,251 feet above the sea, but Mr. BRUNE, an intelligent surveyor, residing at Georgetown, whom I met while descending the Peak, informed me that the height had not been accurately determined. He puts the elevation at about 15,000 feet. I will not stop to describe the view from this elevated point, except to say that at its eastern foot is the Snake River, a tributary of the Colorado of the Pacific; and here many valuable argentiferous mines have been recently discovered and opened. Montezuma and Peru also are in view, where there are excellent lead mines now worked. Near at hand I met Mr. J. P. WHITNEY, on his way to the Blue River, beyond the Snake, where he is operating some newly-opened and valuable mines. Mr. WHITNEY has rendered good service to our country and to Colorado territory, by his collection of ores which were exhibited at the late Exposition in Paris. They were the most valuable ores exhibited on that occasion, and to them was awarded the first gold medal for ores at the Exposition.

At and near Empire City, on the Union District, a few miles N. E., of Georgetown, there are several well developed mines, and some activity displayed in working them. They are of somewhat similar character to those I have herein described. Whilst I was in the neighborhood several rich lodes of silver ore were discovered in or about the Red Mountain, on Bard Creek, a branch of Clear Creek, about 10 miles above this place.

[TO BE CONTINUED.]

Manufacturing and Mechanical Notes

No. XXXVII.

The Arctic Lamp.

In view of the fearful loss of lives and property, caused by lamp explosions, the inventor of this lamp, knowing well that for the sake of gain, dishonest grocers and oil dealers will continue, in spite of all laws, to mix cheap and explosive materials with regularly-tested Kerosene Oils, thus constantly putting the lives and property of their customers in jeopardy, has sought to remedy the evil, and give perfect safety to all who have occasion to use lamps—not by following the beaten track of producing non-explosive oils or burners, since burners never explode, and all, or nearly all, inflammable oils contain more or less of explosive gases—but he goes right to the lamp, the very thing that does the mischief (by generating and holding the gases)—the fountain head of all the fearful scenes and losses caused by lamp explosions. The lamp is constructed entirely of metal, thus making it safe against accidents from breakages, &c. It burns mixed Kerosene Oils, and all grades of the gaselines, known as Naptha, Benzine, &c., with equal and perfect safety, and it cannot possibly explode. The above cut shows at a glance its internal construction. A, is the main reservoir for oil: B, the water chamber, which is filled from the bottom; C, a duct or coil conducting the oil from A through the water chamber and into the consumptive or wick-tube, D: E is the wick, G is an intervening air-chamber, dividing the wick-tube from the oil-reservoir; H H are holes perforated in the collar, covered with safety wire gauze, I I, to provide for the escape of any vapors which may possibly arise. Thus it will be seen that the oil is conducted cool and gradually into the small wick-chamber, which is surrounded by a non-conducting air space, keeping the oil always cool, and condenses any gas that might generate around the burner—thus securing the greatest economy with perfect safety; and to make assurance doubly sure, the safety gauze ventilator makes the lamp perfect in all its parts. Address the PATENT ARCTIC LAMP COMPANY, 86 Nassau street, New York City.

Items from the Brooklyn Machine Shops.

It is with pleasure that we remark an increased activity in the machine shops and foundaries in Brooklyn. At Mr. CHARLES B. HARDICK'S, successor to Campbell & Hardick Brothers, No. 9 Adams street, we notice that they are working day and night upon their excellent and well known steam pumps, for which they received the highest prize at the American Institute Fair last fall. We also found the same activity at the establishment of Mr. JAMES CLAYTON, Nos. 24 and 26 Water street, who manufactures a first class fly wheel pump, which is especially adapted for mining purposes. Messrs. HUBBARD & WHITTAKER, of No. 102 Front street are very busy, and the sound of the hammer and chisel form a pleasing accompaniment to the rattle of machinery. They are very busy constructing some very large pumping engines for the Brooklyn Water Works, for which they received the contract last fall, and a notice of which we gave in the JOURNAL OF MINING at the time. The ATLANTIC STEAM ENGINE WORKS are also actively engaged in building some heavy machinery for Cuba, consisting of oil presses and steam engines. It is but two or three days ago that one of the latter was shipped, and a more noble specimen of a steam motor is seldom beheld. Mr. Duyckink is the general superintendent of these works, and in the discharge of his duties is assisted by Mr. Arthur, a son of one of the proprietors, who personally superintends the employees. Messrs. GUILD & GARRISON, of 26, 28 and 30 First street, Williamsburgh, are as usual full of orders and as busy as possible, in the manufacture of their pumps. They have recently added a new steam engine to their works, which we understand was built by themselves, and certainly has some valuable points to recommend it, and we have a promise of introducing it to our readers through our columns at no very distant day.

Brooks' & Bacon's Hoisting Machine.

In No. 1 of the present volume of the JOURNAL OF MINING we gave an illustration and description of BROOKS' & BACON'S Hoisting apparatus. Since then an improved machine has been placed in APPLETON'S new building, in this city, which gives the best results. The Hoisting apparatus is driven by a belt from the engine, so that there are no reversing arrangements on it. For reversing there is a valve attached to the steam pipe, which is worked on the platform by a rope attached to the valve, and by pulling it, stopping, raising or reversing is accomplished. For a brake to regulate the speed there is a friction band on the engine shaft, worked by steam from a little cylinder, and regulated by a governor. This arrangement of brakes and reversing gear have been fully tested and work very well. The two cylinders are each six inches bore and eight inches stroke, and with thirty-five pounds of steam, make one hundred and twenty-five revolutions per minute. Two tons or more can be lifted seventy-five feet per minute, according to the strength of the rope. In event of the rope breaking, the platform is arranged with a safety-catch so that it cannot drop. Messrs. BROOKS' & BACON'S place of manufacture is at 450 West street, New York City.

Steam Boiler Explosions and Examinations.

The *Locomotive* gives as a summary of boiler accidents a list of ninety-eight explosions, which resulted in the death of two hundred and twenty-nine persons, and the serious injury of as many more. During the month of September last, eight boiler explosions occurred. Only two accidents, which could really be termed *explosions*, happened during the past year among between fifteen hundred and two thousand boilers which were under the care of the Hartford Inspection Company. In England, the Manchester Boiler Association report that from June 27 to July 24, 1868, inclusive, five explosions occurred, by which one person was killed and fourteen others injured. Not one of the boilers in question were under the inspection of the Association. There was nothing at all mysterious in the cause of these explosions; they all arose from simple facts, so frequently reported in other casualties. One was due to collapse of the furnace tubes by the overheating of the plates in consequence of lack of water. Two others were due to external corrosion. From this it appears, that however important it may be to examine the interior of the boiler, it is also of vital importance to pay attention to the outside, especially those parts which are either in immediate contact with the setting walls, or else so covered by them as to prevent thorough ventilation.

Special Notices.

Fisk & Hatch.

SIX PER CENT., GOLD INTEREST, PRINCIPAL also payable in COIN—First mortgage bonds based upon the valuable franchises, grants, railroad equipment, &c., of the Central Pacific R. R. Co., now nearly completed, and forming one of the most assured and productive lines of traffic in the world. The way traffic alone is large and remunerative, independently of the immense through business soon to follow. A portion of this loan is offered to investors at 103 per cent., and accrued Interest in Currency.

The Bonds have semi-annual gold coupons attached, payable January and July in New York city. Information, &c., to be had of

FISK & HATCH,

Bankers &c., 5 Nassau street, New York.

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men, and Others.

83,221.—ORE SEPARATOR AND CONCENTRATOR.—Richard Dunn Symons, John Tremelling, Harry, and Samuel Stephens, Grass Valley, Cal.:

We claim, 1st, In connection with the pan or tub, A, and chamber, H, the yoke B, provided with stirrers or agitators, D, D, D1, and angular ring, D2, or their equivalents, substantially as and for the purpose described.

2d. The hollow vertical shaft, F', and driving-shaft, with a half-rounded opening, in which the half-round depending spindle, E, of the yoke sets, substantially as described, for the purposes set forth.

3d, The pins, I, I, on the gear, I, I', which operate the hammer, the weighted arm. M, M, and the hammers, N, N, the whole constructed and arranged to operate substantially as and for the purpose described.

83,231.—CONCENTRATOR FOR DRESSING ORES.—Henry Weston and George C. Langtry, Dayton, Nevada:

We claim, 1st, A copper-lined table, D, with a longitudinal depression, O, and imparting to the said table a rectilinear alternate motion by means of the crank-pin. K, working in the curved slot, J, or their equivalents, substantially as and for the purpose described.

2d, The manner of suspending the table to the rock-shaft and adjusting shaft, by the hangers, F, F, jointed arms, G, G, and the beam, I, for operating the said rock shaft, substantially as described.

3d, The shackle-rod, M, attached to the arm, L, of the adjusting shaft, for raising and lowering the edge of the table, and the springs, T, T, constructed and arranged to operate, substantially as and for the purpose specified.

COAL SHIPPERS.

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BITUMINOUS COAL

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EDWARD C. BIDDLE, President.
FRANCIS H. JACKSON, Sec. and Treas'r.
Ap18:6m.

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JAS. H. LYLES, Agent,

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ap20:1y **J. B. McCREARY, President.**

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SPRING MOUNTAIN LEHIGH COAL,

Extensively Used for Smelting Iron.

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☞ Reference to them is requested. May 30ly

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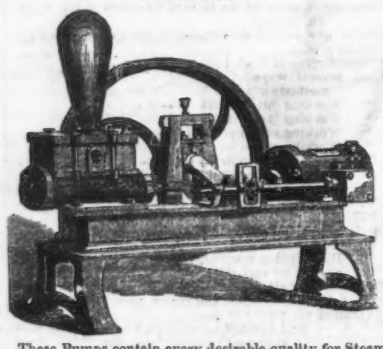

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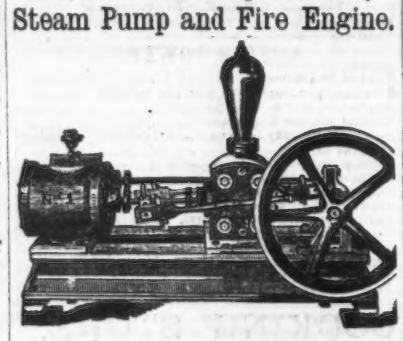

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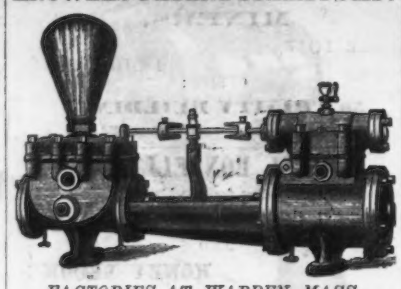

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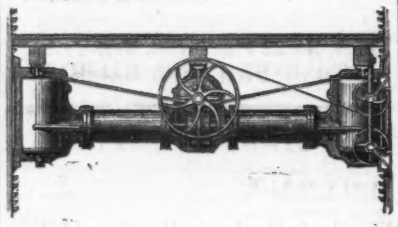

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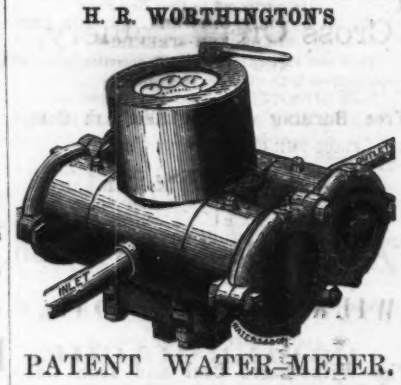

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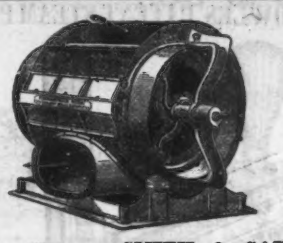

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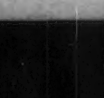

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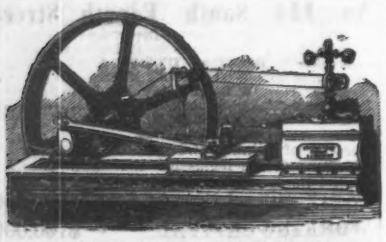

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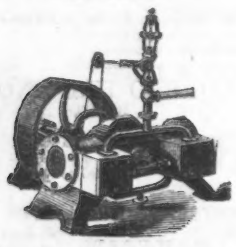

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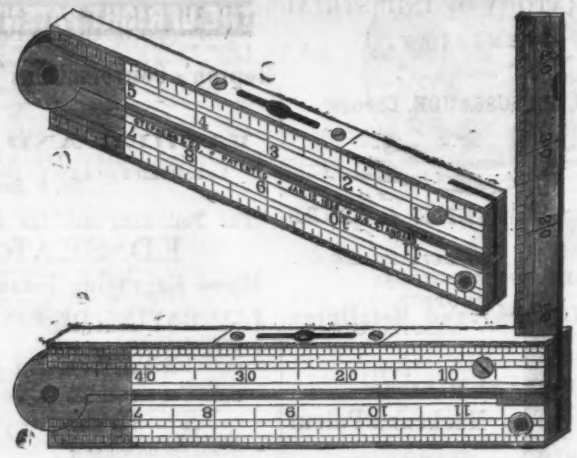

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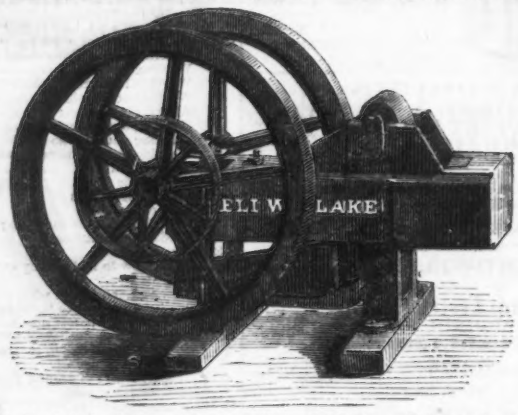

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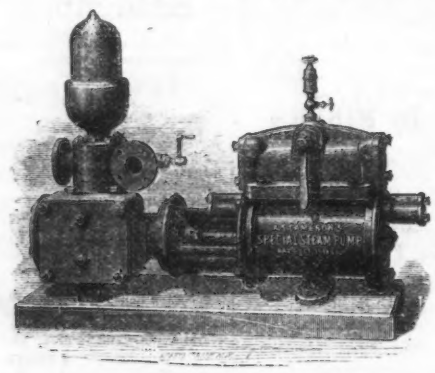

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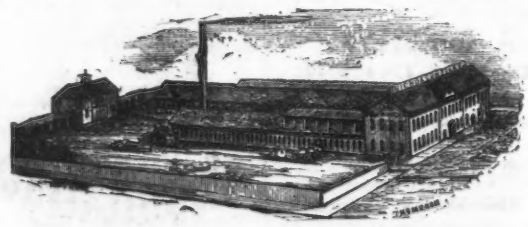

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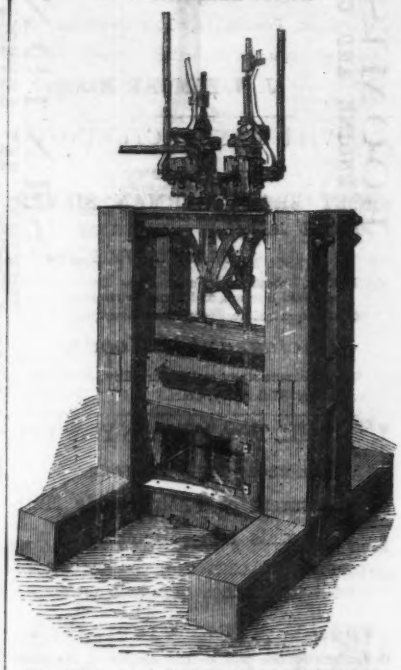

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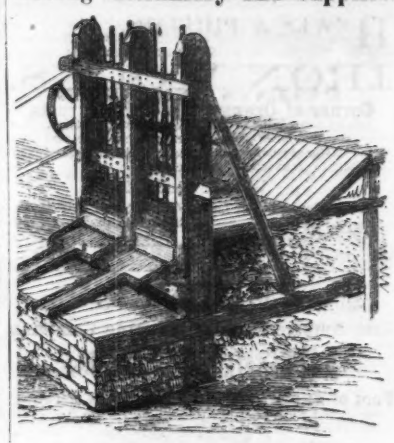

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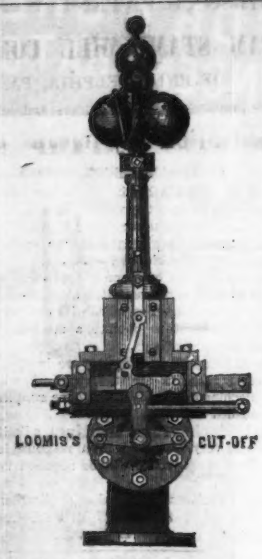

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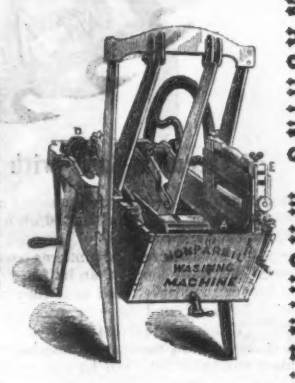

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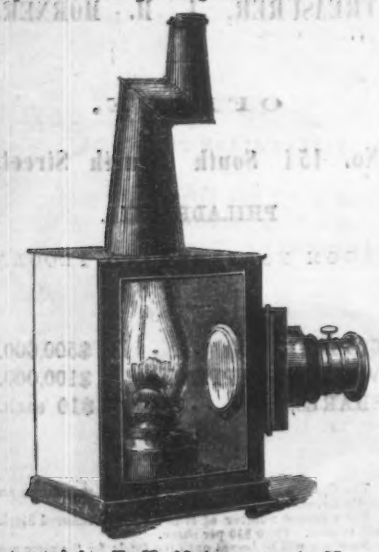

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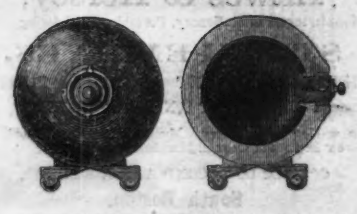

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